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BLISTER RUST NEWS



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Office of Blister Rust Control

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister Rust Control
and the Cooperating States.

VOL. 13, No. 1.

January, 1929.

NEW NATIONAL FOREST DISTRICT CREATED IN LAKE STATES

"Creation of a new National Forest District to embrace the States of Minnesota, Wisconsin, and Michigan has been approved by Secretary of Agriculture W. M. Jardine.

The new Lake States District, to be known as National Forest District No. 9, already contains ten national forest units with a total of nearly 1,200,000 acres of government land. In recognition of the acute need which exists in this region for the reclamation of large areas of land adapted to timber production but at present denuded and unproductive, the National Forest Reservation Commission has approved a program contemplating eventual acquisition of an additional two and one-half million acres of land in the three States. The purchase program will involve the expenditure of more than six million dollars of Federal funds.

The Lake States were formerly included in National Forest District No. 2, with headquarters at Denver, Colorado. The proposed extension of publicly-owned forest lands, and the possibilities for development of forest resources represented by the vast acreage of privately-owned forest lands in the region, have made more direct supervision desirable.

Secretary Jardine today announced the appointment of Earl W. Tinker as District Forester in charge of the new Lake States District. He will take up his duties on January 2, establishing temporary District headquarters at Madison, Wis. As Assistant District Forester of District 2, Tinker has supervised the land exchange and acquisition work of the Forest Service in the Lake States for the past several years."

Press Note of the Dept. of Agric.

SUMMARY OF 1928 BLISTER RUST CONTROL WORK

IN NEW ENGLAND AND NEW YORK*

The eradication season of 1928 will doubtless be recorded as one of excessive rainfall. Judging from reports, all States shared alike in this respect. However, in spite of adverse weather, good results were accomplished in blister rust control. Apparently, the handicap of inclement weather spurred the men on to increased efforts, as four of the seven cooperating States in New England and New York cleared a larger acreage of Ribes than during the previous year. Decreases in the other three States, however, brought the total for all States to approximately 20,000 acres less than in 1927. A detailed comparison of the 1927 and 1928 control activities in New England and New York is given below:

<u>Cooperation</u>		<u>% Increase or Decrease</u> <u>1928 over 1927</u>
Number towns appropriating	145	+16.0
Town expenditures	\$39,038.73	+ 1.9
Number individual cooperators	4381	- 1.1
Individual expenditures	\$54,517.63	+11.2
<u>Acreage Examined</u>		
Individual cooperation.....	318,331	+ 9.2
Town cooperation	218,986	- 0.7
State scouting	318,517	-13.5
State land projects	19,091	+35.4
Total (initial and reeradication).....	874,925	- 2.2
Total (re-eradication)	113,595	+12.3
<u>Ribes Eradicated</u>		
Wild	6,669,063	-16.9
Cultivated.....	57,797	+18.6
Wild per acre.....	7.6	-14.6
<u>Eradication Costs</u>		
Total	\$157,367.38	+ 2.7
Per acre	\$0.13	+ 5.3

The above summary does not include 4887 acres cleared of Ribes in connection with the nursery sanitation projects in Connecticut and New York, nor 300 and 1500 acres, respectively, worked in Wisconsin and Michigan during 1928.

*Paper delivered at Conference in Providence, R.I. November, 1928.

K. K. STIMSON

MICHIGAN FORESTRY ASSOCIATION BACKS BLACK-
CURRANT ERADICATION.

In the spring of 1928 the Michigan Forestry Association over the signature of the President, Mr. Frederick Wheeler, sent out a printed appeal "To the Supervisors and People of Michigan" which is reprinted below:

Greeting--We ask your consideration of the facts concerning white pine blister rust.

There are three cooperating agencies striving to hold back as much as possible the advance of that disease in our state.

The foremost agency in point of training, efficient knowledge and continental linking of combat forces is the U. S. D. A. Office of Blister Rust Control. Next to that comes our State Office of Control in charge of E. C. Mandenberg known as the head of Orchard and Nursery Inspection. And then we have the Michigan Forestry Association which is more strictly representative of the forestry viewpoint and stands as the "next friend" of the white pine.

We believe that the white pine is one of the best of our forest trees and over large areas, formerly having stands of white pine, we believe that white pine will eventually be again the most productive tree that it is possible to use on that soil. We believe in conservation of that power of our soil and climate which will produce good white pine. We believe that such power is a great inheritance to be safeguarded so that it can be fully used for the well being of all Michigan. We believe that such power to produce good white pine timber will, when properly utilized, be inexhaustible and therefore will tremendously increase the general prosperity for centuries to come. We believe this conservation of that natural power is the bed rock upon which Michigan can build steady, unshakable progress and advancement of our general welfare. Therefore we appeal in the interest of white pine, and in the interest of all our people; that due heed be given to the facts about white pine blister rust, and that human mind and effort be used effectively to adequately control that disease.

A study of the facts shows that when cultivated black currants are allowed to remain in any locality it amounts to a broad invitation for the blister rust to enter. The experts think of it in no other way than this: If cultivated black currants are to be found; then sooner or later the blister rust will be there.

Therefore we want thorough knowledge of all plantings of black currants in Michigan and of any that may have escaped cultivated areas through any means whatsoever.

E. C. Mandenberg, Office of Orchard and Nursery Inspection, Lansing, will take charge of all records pertaining to blister rust control and we request that prompt notice be sent to him, as to known plantings of black currants. From the U. S. D. A. Office of Blister Rust Control, Washington, D. C., will come to you printed matter showing facts about the disease. Requests for information can be sent to that Office or to Mr. Mandenberg.

Whatever circular goes out with this appeal is presented by reason of the cooperative work undertaken in the Nation-wide effort for control of the blister rust and brings you in touch with the long chain of united agencies from the Atlantic to the Pacific.

FREDERICK WHEELER,
President Michigan Forestry Ass'n.

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UNUSUAL SPECIES OF RIBES FOUND IN MASSACHUSETTS.

District VII in Massachusetts which comprises the county of Franklin and a few towns in northern Hampshire County, seems to be a favorite place for unusual Ribes. Two years ago we located and destroyed several thousand plants of Ribes lacustre (prickly-stemmed currant) in connection with control work on the Colrain State Forest. Previous to this finding, all records indicated that this species had been found only as an occasional plant in Massachusetts.

It is also generally supposed that Ribes triste (swamp red currant) is more or less of a curiosity in the State. In fact, a mount of this species on display in the Botany Laboratory at the Massachusetts Agricultural College bears the statement that it is a rare plant in Massachusetts. During the progress of our work on the Savoy State Forest last summer, we found and uprooted several thousand of these "rare" plants. These particular specimens were found at an elevation of 2,300 feet and in a hardwood type, a considerable distance from any swamp lands.

G. S. Doore, Massachusetts.

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WHITEBARK PINE AND LIMBER PINE HAVE A PLACE AS TIMBER-
LINE TREES IN THE WESTERN MOUNTAINS

Mr. Titus Ulke has an article on, "The 'Why' of Timberline" in the October number of American Forests and Forest Life. He ascribes eight different factors working singly and in combination as a cause of timber line, viz: Cold; Shortness of the vegetation season; Wind or dry killing in winter; Spring or summer frosts; Fire; Insects and fungi; Pressure of snow; and Avalanches of rocks and ice.

Speaking of ascending the Selkirks, the author writes as follows:

"As one ascends above the alpine grassland of the valley heads to the elevated outposts of the forests, the effects of wind are once more visible. The trees which are permitted by the snow to grow on ridges and hillocks at an altitude of 7,000 to 8,000 feet, exhibit the characteristic forms of wind cripples. They are usually the toughest and most supple species, such as alpine firs, Engelmann spruces and the limber and whitebark pines."

MAPPING THE WOODLAND IN ULSTER COUNTY, NEW YORK

As Will Rogers says "All I know is what I see and read in the newspapers". I have seen a lot of the eastern foothills of the Catskills in Ulster County in the last two weeks doing woodland mapping. I have seen every road on the map, measured them by auto or on foot, and at night I go over all the bad ones again. I think I have been on some the town road supervisor has never seen and I sometimes question if the map maker saw them. I have been over them going forward and some of them going backwards. I haven't tried any of them upside down yet but it is still early - snow and ice have not graced the landscape to any extent. Some of the worst ones to travel look the best on the map. In the olden days with Dobbin if you were late for chores you always took the short cut home. You bumped over a few rocks, drove through a mud hole or two, let the brush scrape along side the wagon box and you always made it. But in this ethical day when polished automobiles are the thing it is the smoothest way home, and not the short cut. As a result the brush grew into trees, the old wheel tracks became ditches, and the road is no more. So much for the roads. I don't know how we would get along without them at that.

I am satisfied that in doing this mapping work one cannot be too careful. Probably the best way is to cover the road carefully and at frequent intervals detour the surrounding district, make careful observations and measurements, and then, when you are sure you have it right, drive to some commanding position where you have a view of the landscape recently covered, do considerable erasing and fix it up the best you can. But for all that, I am surprised how nice it looks when completed and feel it is the most accurate piece of work of its kind ever done in the neighborhood. The first time is always the best at anything. A pioneer should never be criticized but praised.

It is surprising how much white pine a fellow will find when he is looking for it. Of course, you can't help but see some other things as you go along. For instance I saw a boy chopping up a bicycle frame the other day for wood. Now that is not so unreasonable when you think of it. The surrounding woods are full of rock oak and he had been used to chopping that. Oh well, there isn't so much difference between rock oak, ironwood, or a bicycle frame I suspect. He doesn't have to burn it, the old man sees to that.

But white pine has played an important role in the early days through here. I understand from old timers whom I occasionally meet that wonderful white pine grew here at one time but of course it is all a matter of history now. However, there is a great deal of reproduction coming on through this wooded, rocky section. It is practically all mixed with oak and in places is having a hard time to come through. I sometimes wonder how it is possible for trees to survive in this rocky soil. But they are here and it does credit to white pine to see it looking so good. Stone quarries are very numerous. What a place to do eradication work! I would almost venture to say that were Ribes plentiful, large areas would have to be thrown out as being impractical on account of excessive costs.

Dec. 24, 1928.

H. G. Strait, New York.

NEWS ITEMS FROM MAINE

The weather conditions prevailing in the northeastern part of the State of Maine have been very good so far this year. Snow has been very light and weather warm. In some portions of Somerset County, snow being more plentiful, the recent rains caused the roads to be very icy and slippery. In the town of Norridgewock children were skating in the road.

A Clue Worth Looking Into

Mr. Patterson of Anson, Maine claims that he has been raising gooseberries and currants in and near white pine "for nigh onto thutty year now, and BY CRACKY there aint no blister rust in his pine".

Guess that we will have a "look see" in the near future. It should prove worth-while if there are any Ribes nigrum.

Old Growth Pine Still Extant in Maine.

Mr. Edwards of Madison has been up with the Coburn Heirs Company on their holdings near the Canadian border. He says that no blister rust was found there. Also, this was interesting to find out, that located at one particular spot in this township, GENUINE OLD GROWTH MAINE PUMPKIN PINE WAS GROWING. To check up on this statement I asked him in regard to its age, and as near as I could find out there has never been anyone lumbering in there. So, this may be correct. One of the fallen ones measured 52 inches in diameter and was 33 paces to the limbs. Anyway, that sounds like real stuff for white pine.

J. Mac G. White, Maine.

Edit:- We await with interest Mr. White's survey of the Patterson pines.

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FOREST FIRES CAUSE GREAT FINANCIAL LOSS IN RHODE ISLAND

Seventy-nine forest fires in Rhode Island during 1928 burned over nearly 7,000 acres and caused damage exceeding \$170,000. *****

R. I. Dept. of Agric. Press Bulletin.

* * * * *

All forest protection activities including blister rust control in Rhode Island depend to a great degree on the decrease of the fire hazard especially as the people of the State will not as a whole actively support a forest protection and practice program until they are better insured against forest fires. Individuals as well as the State government will carry on forest practice but to sell the idea to the public means first placing the forest fire menace away from the front page headlines. The State Commissioner of Agriculture, Mr. Harry R. Lewis, realizes this and is now working towards achieving an effective forest fire prevention and suppression system in Rhode Island. He is doing this with his eye on the future possibilities of forestry here.

A. W. Hurford, R. I.

BLISTER RUST IS FOUND YEARLY IN MANY NEW PLACES IN MAINE

Report of State Control Leader Shows Control Work Being Accomplished on Large Scale. Disease Affects Growth of White Pine.

Augusta, (Me.) Jan. 14. (Special) - According to the annual report of Walter O. Frost, State leader in the blister rust control work, which was filed with the Governor and Council today, control work during the past year was done in 62 towns scattered over 10 counties of the State.

"All towns in which work is done are designated by the forest commissioner under the authorization of Chapter 178 of the public laws of 1917", says Mr. Frost in his report, "as areas within which control measures against white pine blister rust are necessary.

"Within these areas it becomes the duty of every land owner to remove all currant and gooseberry bushes within 900 feet of white pine trees, prior to the closing of the eradication season. The owner failing to do this, the forest commissioner is authorized to remove them and charge the actual expense to the town to be collected as a State tax. Due to the hearty cooperation of the public it has been necessary to resort to this authority but four times during the past two years."

Find New Evidences.

In Maine evidences of the destructiveness of blister rust are being found in many new locations yearly, both in white pine plantations and natural growth.

"Lumbermen, farmers and other pine owners are reporting it, and are soliciting knowledge of its control from this department", states Mr. Frost. "Infection has become general throughout the State within the last 10 years, being exceptionally heavy in some localities. Study plots made in many towns, covering all of the 10 southern counties of the State, show infection running as high as 75 per cent, in natural reproduction and 95 per cent nearly a total loss in pine plantations. Blister rust kills mature trees also, but they die slowly, and are readily salvaged before their lumber value deteriorates.

"Blister rust is firmly established in this country. Maine pine owners must not take this menace lightly if our State is to continue its high rating as a white pine State. Its control is feasible and not exorbitant in price to practice, the protection of our pine crop from this disease being assured by the removal of all wild and cultivated currant and gooseberry bushes within 900 feet of white pine trees. *****."

During the past year blister-rust activities were carried on in 13 towns in Oxford County, three towns in Franklin, three towns in Knox, 10 towns in Cumberland, seven towns in Lincoln, three towns in Androscoggin, eight towns in Kennebec, three towns in Waldo, five towns in Somerset and two towns in Hancock.

In addition to the efforts of the State and towns jointly to blot out this menace to the growth of white pine, there were several individual co-operators, among the largest of whom was the S. D. Warren Company. This company eradicated the currant and gooseberry bushes, carriers of the blister rust spores, from their many white pine plantations and around their nursery at Bingham. John D. Rockefeller, Jr., and Edsel Ford also did a large amount of work on their estates at Seal Harbor where many hundreds of infected trees were destroyed together with thousands of spore bearing bushes.

Jan. 14, 1929.

From "The Portland Evening Express," Portland, Me.

HEAVILY INFECTED TREE AT SKOWHEGAN, MAINE.

Mr. J. Mac G. White, blister-rust control agent in Maine, informs us of a pine heavily infected with blister rust on Mr. A. W. Varney's lot at Skowhegan, Maine. This pine, about 5 inches in diameter and 13 feet in height, had 113 cankers on it. The majority of the cankers were on the limbs but two stem cankers were evident, one about 2 feet and the other about 6 feet above the ground. This heavily infected tree was located southeast of a run containing R. hirtellum and received a northwesterly wind. Other pines in the lot showed infection but not to such an extent as this particular tree. Control methods were applied September 18, 1928, and 382 gooseberry bushes were removed from the runs on this area.

The following table shows the number of cankers and percentage of infection according to years:

	1919	1920	1921	1922	1923	1924	1925	1926	1927
Cankers	20	10	11	7	16	9	19	15	6
Percent	17.7	8.8	9.7	6.2	14.2	7.9	16.8	13.4	5.3

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GOVERNOR OF MICHIGAN RECOMMENDS ACTION BE TAKEN
TO CONTROL WHITE-PINE BLISTER RUST

Scouting for blister rust has been carried on in Michigan every year or two since 1916. During the past two seasons it has been found in many counties in the State and the Governor has included in his message to the Legislature a statement concerning the importance of controlling it. Speaking about the Michigan Department of Agriculture, as quoted in the Lansing State Journal for January 3, 1929, he states:

"This department (Agriculture) has charge of the control of plant diseases and insect pests. The white-pine blister rust threatens that desirable decorative forest tree. In view of the fact that Michigan is planting millions of white pine seedlings on State lands and that injury to the mature or growing pine would affect the beauty of the State and her resort possibilities, I would recommend that adequate provisions be made so that this department may cooperate with the conservation department, the United States forestry department and other agencies in the eradication of the host plants as a means of preserving the white pine."

BLACK-CURRENT ERADICATION WORK IN SOUTHEASTERN MASSACHUSETTS

Since the close of the normal Ribes eradication season last October, the entire townships of Attleboro, North Attleboro, and Plainville have been canvassed for black currants. This is a most interesting phase of blister-rust control work. All classes of people are met with, and all kinds of arguments have to be listened to and dealt with. It is surprising also, to find how many people insist on calling these plants, "black gooseberries." In conducting this post-season work, the plan has been to leave a black currant circular (Massachusetts Department Publication No. 132) with each owner who is found to have black currants on his property. In addition, a copy of the State regulations relating to this species, is left with the owner. Since it is impossible to uproot the plants at this time of year, a card is left which the owner is to send in when the bushes have been destroyed. At the time of the interview, the agent makes a record of the number and condition of the plants and any other facts pertinent to the case. The particular towns mentioned have been selected because they adjoin the State of Rhode Island and it is desired to make them free of black currants in order to fit in with plans of that State to rid their towns of this menace.

Where road conditions are satisfactory, such work as this fits in very well with the agent's activities during the months immediately following the close of the regular Ribes eradication season.

January 14, 1929.

E. M. Brockway, Mass.

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HEAVY INFECTION AT NEWFIELD, MAINE

An examination was recently made of a half acre plot of pines at Newfield, York County, Maine. Of the 101 trees on this plot, 52% were found to be infected with blister rust and 22% were dead.

A survey of pine conditions in the above town was made in 1923, and limb and stem cankers were noted and marked on a map. This year I found that the limb cankers found in 1923 had reached the trunk and the trees with stem cankers found in 1923 were dead.

The question is often asked from pine owners; "Will blister rust kill the pines eventually?". This can be answered by showing them such areas as the above; they speak for themselves and usually put our object over - that of co-operation in eradicating currants and gooseberries.

Jan. 15, 1929.

Arthur J. Lambert, Maine.

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The Third New England Forestry Congress will be held at Hartford, Connecticut, February 1 and 2, 1929.

BLISTER RUST PROGRESSING NORTHWARD IN MAINE.

Mr. A. J. Lambert has been making an intensive survey for the white-pine blister rust in southern Franklin County during the month of December. He writes as follows:

"White-pine blister rust was found in every young pine lot in Chester-ville, New Sharon, Temple, and Strong during the month of December. A thirty acre lot owned by the first selectman in Chesterville was heavily infected. A half acre plot was laid out in the selectman's pine and data was collected. Thirty-five percent of the pine was found to be infected. Conditions were found to be the same in New Sharon. White-pine blister rust was seen in every lot; from 3 to 20% of the trees being found infected. There is not as much pine in Temple and Strong but blister rust was found there also, although the percent of pine infected was not so high as in the other towns.

"There has been no Ribes eradication carried on in these towns as yet. My scouting trip was to find out the extent of the blister rust infection in each town and what damage, if any, had been done to the pine. Selectmen in each town were interviewed and many pine owners shown the disease. The latter were asked to cooperate in their town with the State and Federal Government in removing the Ribes to prevent further pine infection."

A. J. Lambert, Maine.

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PINE UTILIZATION IN VERMONT

I recently completed taking data on an interesting lot in the town of Clarendon, Vt., which was an example of Yankee thrift and of the close utilization of products of the woodlot. This was on a plantation established in 1912, in a field corner full of boulders and rich loamy soil. The least of the trees measured 5 inches to 6.5 inches in diameter and 25 feet to 35 feet in height. The owner Mr. William Marsh cut and removed the marked trees. The trunks were cut into 4 ft. wood and carted to the farmhouse. Soon he returned and started loading his wagon with the branches and I learned that he was using them to bank his buildings with. Later a neighbor took several loads away for the same purpose. The next day he capped the climax by feeding some pine boughs to his flock of sheep. But then that is a common practice when sheep are confined to their pens in winter. They eat not only the foliage but also the bark, the latter evidently for its medicinal qualities. I have lately noted cases of sheep eating small quantities of pine foliage in heavily grazed pastures during summer months.

Winter Program

The winter program in this district includes with the regular service and educational work a survey for Ribes nigrum, the establishing of pine infection study plots in eradicated and non-eradicated areas, and, in cooperation with Mr. Callward, State Extension Forester, the laying out of demonstration plots in roadside pine lots.

Jan. 15, 1929.

W. E. Bradder, Vermont.

PINE PLANTATIONS AND NEW ENGLAND FORESTRY*

By Richard T. Fisher

Director, Harvard Forest.

(Continued from December issue)

As alternatives to the pine planting policy - perhaps they should be called complements - three principal aims stand out. Taken together they make a concept of forestry which fits the present silvical and economic facts. In practice these involve policies which are interwoven and dependent.

First, mixed stands, either mixed hardwood or mixed softwood and hardwood.

(Note: A treatise on the first principal aim appeared in the December issue of the B.R. News.)

Second, development of the natural forest, both for its greater productiveness per dollar and as the only basis for early or sustained yields.

In Connecticut, Rhode Island, Massachusetts, and the southern halves of Vermont, New Hampshire, and Maine, there are not less than 15,000,000 acres of woodland. This amounts to between 50% and 60% of the whole area, and at least 20% more than the region contained a hundred years ago. Three-quarters of this present forest began as cut-over land with the seedlings, mainly advanced growth, of hardwoods that started under the previous stand, the sprouts from stumps, and some new reproduction, usually weed species that germinated at or near the time of cutting. The other quarter comprises the variable and more gradual replacement on old fields, most often white pine or gray birch, or mixtures of the two. Tens of thousands of these acres contain for the first few years the elements of a first class new forest, either of hardwood or hardwood and softwood. Hundreds of thousands are approaching an early and nearly worthless maturity through the increasing dominance of forest weeds and defective trees. In the middle and older stages of growth, through thinnings in the better stands, through more selective logging in mature or uneven-aged timber, much can be done to build up growth and forest capital and to enlarge income, both present and future; but as an alternative to planting, as a means of adding productive acres to the land, the early weeding of suitable immature wild stands will show two to four times the return per dollar.

Third, economic solutions, such as cooperative selling, forest owner associations, fairer taxation, and market improvements.

* Extract from "Journal of Forestry", October 1928, Vol. XXVI, No. 6.

Notwithstanding the blight of western overproduction, which only time can lift, and which has not helped to make the productive handling of our timberland more attractive, there are directions in which economic factors might be changed for the better. A sound theory of production and financing is indispensable. In the long run no industry can live which cannot pay its operating expenses and fixed charges out of income. A properly organized forest will meet this test, but the small unit of forest will seldom do so; the plantation, with its deferred return, never. A promising way out, said to be already in successful operation in Finland, is through associations of owners for purposes of management and marketing. With a sufficient and convenient grouping of holdings and above all, under an able manager, there could certainly be secured more regular and frequent yields, lower costs, and more advantageous selling. The quality and hence the price of lumber could be raised, both immediately by more selective logging, and gradually by better silviculture. Such a plan would tend to put both production and financing on the only basis compatible with forestry, namely, continuity. A similar point of view is needed for final solution of the tax difficulty, much of which arises from the false conception that forests are frozen assets, to be liquidated only at long intervals, and must consequently be subsidized by some form of exemption. If forests can be thought of and expected to be units of continuous or periodic yield, as ultimately they must be in fact, taxation will be greatly simplified. In the matter of markets also it is possible by concerted studies and better organized relations between producer groups and consumer groups to find ways of economizing in distribution, of more varied disposal of low grade products, and even of developing new uses for species not now in demand.

Broadly speaking, forestry must be faced both by the public authorities and by the private owner as a genuine industry with the same technical, financial, and economic requirements as any other. In other words, if the community is to become truly "forest-minded," it needs silviculture that will get the best production for a given expenditure, forest properties that will keep on producing, and the best possible adjustments to markets and utilization. As the principal item in the program, the planting of pine does not seem to fill the bill.

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NOTES FROM RHODE ISLAND

I expect to carry on a survey, mapping and recording the location, value and amount of white pine as compared with other woods in Rhode Island during the winter. Blister rust control will be tied up with white pine reforestation projects in the early spring and much educational work will be carried on this winter with this purpose in view.

I attended the annual meeting of the Society of American Foresters in New York in December while on annual leave. Doctor Pennington and Mr. McIntyre of New York were there as well as Doctor York, but I didn't see any of the agents.

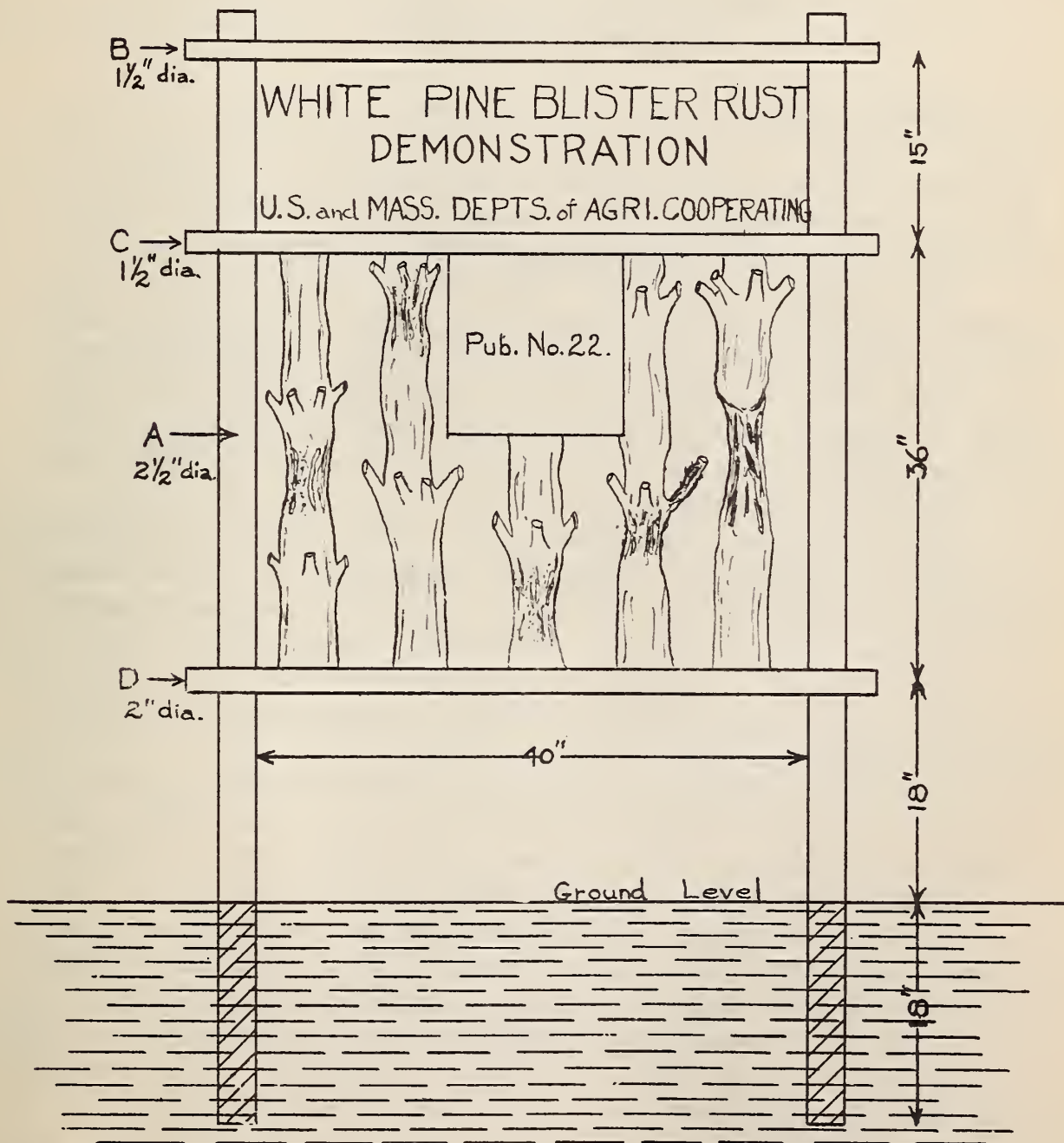
One reaction I have noticed here in Rhode Island since the Blister Rust Conference is the good feeling towards the work and the field force in the minds of those here, like the Grange people and others, who were in contact with the men. Whatever State acts as host to the Conference next year, it will have to go some to get more out of it than we did here.

A. W. Hurford, R. I.

ROADSIDE EXHIBIT IN MASSACHUSETTS

The following is the average size of roadside exhibits erected in District VIII. All the exhibits were made from white birch saplings. The signs were mounted on linoleum and painted with waterproofing clear lacquer and framed in birch.

R. E. Wheeler, Massachusetts.



A JOURNALIST'S STORY OF BLISTER RUST

A short time ago I asked a reporter of a well known daily paper if he would accompany me to several infected areas of pine and write up the story in his own way as he saw it. He agreed to, and after an hour or so spent in looking over several infected lots he said that he was ready to write the story. He asked several general questions and I gave him only such information as he requested.

A few days elapsed and then on opening my paper one morning the following column greeted my eyes:

PLENTY OF PROOF OF DAMAGE DONE BY
BLISTER RUST

Control of Spread by Removal of Wild
Currants Illustrated.

Exeter, (N.H.) Dec. 27.-One has to travel but a few miles from Exeter to find proof of the devastation caused by blister rust, or to see what a fine stand of healthy pine can be developed after wild gooseberry and currant bushes have been removed, even though infection has been serious.

But a short distance from Exeter is a plot of many acres where blister rust got its start in 1917 and 1918 before control measures were instituted. Kenneth E. Bar-raclough, blister rust agent for Rockingham county at that time, called attention to the plot and had charge of control measures. A crew went through the piece and destroyed hundreds of wild bushes.

But the damage had been done. The infection had been serious and general. Today the spread of the rust, which cannot be stopped once it hits a pine, is going rapidly. And usually more trees are encircled, more tops are broken from lofty pine by the fall and winter winds, the needles on other trees are turning brown, and all in all. it is a sickly looking sight.

There is no more spread of infection since the wild bushes were destroyed, but there will be no income from the pines either. Young pines, half grown and fully developed trees are going the same way.

But a few miles the other side of the town is a different illustration. Around 1916, signs of infection showed up in this lot and the blister rust agent got busy. He convinced both owner and townspeople of the presence of the infection and the need for control measures. The trouble was in and around one of the finest stands of white pine in the county.

In 1917, a thorough canvass of the lot and surrounding acreages was made and hundreds of wild gooseberry and currant bushes destroyed. It developed that the infection had got only a small start. The trees already hit developed the orange blisters and cankers and went to ruin. But nearby trees continued to grow and develop. Today the stand is a show place, being an illustration of healthy pines, correctly pruned and thinned of hardwood, making good growth

and promising a worthwhile return some day.

The latter lot illustrates the perfect control of the spread of the disease made possible by the destruction of the wild currant and gooseberry bushes, the intermediate host of the disease, and without which, infection cannot return to the pines. It is just another illustration of the truth of the blister rust agent's pet sermon on the text "Verily, blister rust cannot spread from pine to pine without the aid of the currant or gooseberry bush".

I had expected some exaggeration, but was rather pleasantly surprised to note the development of the story and the few misstatements.

One reason for encouraging the writing of the story by a journalist was because I had several times heard agents' articles referred to as pure and unadulterated propaganda.

L. C. Swain, New Hampshire.

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COMMENTS ON CONFERENCE IMPRESSIONS

In the December issue of the News Letter we find five agents commenting on the annual conference recently held in Rhode Island.

Two things seem to have made a deep impression in the minds of these agents: (1) The trip to Goddard Park and (2) Mr. Graham's talk. Three of the five specifically mention these two features of the conference as outstanding. It seems likely that all those who attended are in agreement in this respect. It is obvious that we cannot have a Goddard Park and Mr. Graham at every conference so we pass on to two other comments which are pertinent to our annual meetings.

"More field trips and more time for discussion" are the two requests made by these agents. This last request carries with it an implied or expressed request for a less number of formal papers or for more time to discuss an equal number of papers.

Field trips now and then are fine but it is possible that the recent one was a novelty and that future trips will be stale. It is a good deal like serving the same old cake every meal. Occasional good cake like Goddard Park is relished but we need a change in menus if our appetites are to be satisfied. We really insist on having good cake and in variety.

It is realized that there was a cry of "Hurry, hurry" by the conference chairmen. They couldn't escape it and cover the program. Perhaps the fault was not so much with the program as with ourselves. A little more speed in our own mental attitudes and activities might solve much of this problem. We cannot equal Dr. Snell in rapid fire talking but more rapid fire thinking and acting on our part would help a great deal. We might start practice right now and be in trim for the next annual conference.

W. J. Endersbee, Massachusetts.

ELIMINATION OF NCN-FINE AREAS IN CONNECTICUT AFFORDS

PROFITABLE WINTER EMPLOYMENT FOR MEN

This project (Elimination of Non-Pine Area) helps to fill two great needs in our plan of work; namely, the need of accurate information on the location and conditions of pine areas and the need of profitably employing the agents and scouts full time during the winter months. Connecticut has a pine survey made some years ago, but lumbering and other changes in forest conditions have made it unreliable as a basis for systematic control work.

Agents and State employees who are held over during the winter months devote their time to the elimination of non-pine areas when not engaged in educational or service work. The method employed in this type of scouting are as follows:

There are base maps consisting of photostatic enlargements of the U. S. Geologic Survey sheets brought up to a scale of two inches to a mile. These maps may be obtained from the Washington office. Maps for field use are made from these maps by tracing roads, streams, town boundaries, etc., or else portions of the base map itself are used in the field. The latter has the advantage of showing contour lines and more detail, but has the disadvantages of being somewhat indistinct and of not permitting field notations to show up distinctly.

Upon this field map the scout indicates pine areas. He may use an auto to advantage in scouting from roads, when roads and weather conditions permit, but ordinarily the scouting is done on foot, except for transportation from block to block or from headquarters to the job and return. Areas that cannot be seen from roads must be mapped from elevations. Each type should be examined close enough to ascertain reproduction conditions because

a good pine reproduction might throw an area into a pine type when a casual examination only from a distance would designate it as hardwood. A good deal of territory can be covered per day in this type of scouting. At night or when weather conditions prevent outside work, the data from the field map is transferred to a control data map.

Extract from paper by J E. Riley, delivered at Providence Meeting, Nov.19,1928.

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PERMANENT MOUNTS OF WHITE PINE BLISTER RUST AECIA

The delicate aecia of Cronartium ribicola on pine branches fade and disintegrate in a short time to such an extent that they are soon useless for demonstration purposes. The following method enables one to preserve them in a state closely approximating their normal condition. When the blisters are mature and about to burst, they are treated with a staining solution consisting of about equal parts of orange G and eosin in 95 per cent alcohol. A bit of absorbent cotton twisted around a match or a camel's hair brush may be used to apply the stain. Each blister should be thoroughly impregnated. When the alcohol has evaporated, after about an hour, the same impregnation process is repeated with a 10 per cent solution of paraffin wax in xylol or other similar solvent. Upon drying out, the blisters are surprisingly firm and have a permanent color very like the natural tint - W.A. McCubbin, Pennsylvania Bureau of Plant Industry, Harrisburg, Pa.

Extract from Phytopathology Vol. 18 No. 12 p. 1029, December, 1929.

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TOWN FORESTS

Fitchburg, Massachusetts, apparently the first community to establish a town forest under a State law, started in 1914 with 109 acres. Today there are at least 250 town forests with an area of more than 500,000 acres. Though most of them are in Massachusetts, New York, Pennsylvania, Connecticut, New Hampshire, and Vermont, twenty-six States are represented. Troy and Rochester, N. Y., New York City, Chicago, Seattle, Newark, N. J., and Asheville, N. C., own forest areas exceeding in each case 10,000 acres.

WHITE PINE* (IN PENNSYLVANIA)

By Henry B. Phillips.

White Pine, the prince of American forest trees, continues to be the principal tree grown for reforestation by the Pennsylvania Department of Forests and Waters. More than 18,000,000 of the 64,611,896 forest tree seedlings distributed to private owners from the State Forest Nurseries were white pine, and 21,517,527 of the 36,813,999 trees planted on the State Forests are of this species. This king of softwood trees, about which centers the romance of the big lumbering days in Pennsylvania, is step by step regaining its place of importance in the forests of the Keystone State.

The original white pine-hemlock forests of the State contained more timber than all other species combined, and Pennsylvania's rise and fall as a lumbering State is largely the history of white pine lumbering. The city of Williamsport, once the lumber capital of the world, derived its wealth from these forests. Although some white pine occurred in every county of the State, the great forests of pine and hemlock were found in the northern counties, extending southward through Clearfield and along the crest of the Alleghenies. Many lumbermen conceded that the finest forests of white pine east of Idaho were found in Pennsylvania. These stands commonly contained 25 to 50 thousand board feet per acre and stands of 100,000 board feet are said to have occurred.

White pine ordinarily reaches a diameter of three feet and a height of 100-125 feet, but trees five feet in diameter, 150 feet high, and 300 years old were not uncommon in the original forests. The tree so impressed the early colonists that it was introduced into England in 1705 and shortly afterwards into Germany, where it has long been naturalized. Better forests of white pine today are growing in Germany than can be found in this country. Some of the oldest and most beautiful planted stands are located in the forests of the City of Frankfort.

Relatively little of the original white pine forests of the State remains. Most of the white pine in the State today is "second growth" timber. Thousands of acres of abandoned farmlands are seeding up to white pine, and seedlings and saplings are scattered upon the cut-over lands now being protected from fire. The largest remaining stands of original white pine occur on the properties of Wheeler and Dusenbury in Forest and Elk counties and the Central Pennsylvania Lumber Company. The Wheeler and Dusenbury Company, of which Mr. N. P. Wheeler is a member of the State Forest Commission, made a gift of a tract of beautiful white pine to the Federal Government for permanent preservation, in 1927. One of the most beautiful tracts of virgin white pine and hemlock in the State is found within the 8,000-acre Cook Forest, along the Clarion River.

White pine trees from State Forest nurseries have been planted in every county of the State. These trees are being planted for timber and windbreaks, and trees secured from private nurseries are being widely planted for Christmas tree and ornamental purposes, for besides being the tallest, most stately, and most beautiful of all eastern conifers, white pine is a desirable tree for park and lawn planting. The oldest plantations on the State Forests are of white pine. The first white pine was planted in 1902, when 5,000 trees were set out on the Mont Alto State Forest. During the first five years in which white pine were planted on the State Forests, 120,300 trees were planted. During the first decade of State Forest planting, 2,989,068 white pine were planted and during the second decade more than 18,000,000. (Continued in next issue)

* Extract from Forest Leaves, December 1928, Vol. XXI, No. 12, pp. 183-185.

PROMPT SUBMITTAL OF EXPENSE VOUCHERS

There is quoted below a memorandum dated August 26, 1926, from the Chief of Bureau calling attention to the necessity for promptly submitting reimbursement vouchers (form 1012) and vouchers covering miscellaneous expenditures (form 1034). This Office will appreciate your strict compliance to this request.

"Under date of June 26, 1924, a memorandum was sent you calling attention to delays in the submittal of reimbursement vouchers, those delays causing uncertainty in the financial standing of projects and generally tending to interrupt effective administration. You were requested to see that all accounts be submitted monthly, and in no case to be delayed beyond thirty days after the close of a quarter. Delayed reimbursement vouchers must be satisfactorily explained in order to be approved.

"We are experiencing some delays in the submittal for payment of vouchers covering miscellaneous expenditures, commonly referred to as "white" vouchers. It is of the greatest importance that those be submitted promptly in order that the credit of the Government may be maintained and our financial records kept up to date. Hereafter, all white vouchers must be submitted promptly, and not later than within sixty days after the incurring of the obligation. Delays in submitting vouchers will be considered administratively incident to the personnel record of the individual concerned."

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BLISTER RUST DEMONSTRATIONS IN RHODE ISLAND

Seven blister rust demonstrations were held during the fall of 1928. Four of these demonstrations were at county fairs, two at State agricultural shows and one at the annual meeting of the State Grange. A total of approximately twenty-three thousand people saw the demonstrations. They lasted from four to five days each on different weeks and while taking much of my time, they allowed needed opportunities in educating the public on blister rust control.

A. W. Hurford, Rhode Island.

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The American Optical Company, which has several thousand acres of fruit land and many hundreds of acres of white pines in northern Connecticut and southern Massachusetts, has a forester, Mr. Fairman Howard, in charge of the lands. Mr. Riley writes from Connecticut that they have had splendid cooperation from the American Optical Company, and that the Company is checking over the eradicated areas each year for Ribes bushes either missed or newly sprouted.

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OFFICE COMMENT

COMPTROLLER'S RULINGS

TRAVELING EXPENSES, DIVISION OF GASOLINE TAX

Where an employee of the United States operating his personally-owned auto on actual operating expense basis (gas and oil) on official business is accompanied by a person other than an employee of the United States, the employee may be reimbursed for one-half of the expenditures for gasoline exclusive of the State tax. No reimbursement of the State tax may be made to such employee.

COMPTROLLER GENERAL McCARL TO W. M. LOCKWOOD, DISBURSING CLERK, INTERSTATE COMMERCE COMMISSION, OCTOBER 9, 1928.

There has been received your letter of September 20, 1928, with inclosures, to the effect that an employee traveling on official business in his automobile on actual operating expense basis (gas and oil) and making purchases of gasoline for which he submitted claim for reimbursement, including the State tax on the gasoline, was accompanied by a person not in the employment of the United States, and that the employee had been reimbursed for one-half of his expenditures for gasoline, including one-half of the State tax. You request to be advised as to the proper procedure for the collection from the State of one-half of the State tax which was reimbursed to the employee.

The principle of the decision of May 14, 1928, of the Supreme Court of the United States in *Panhandle Oil Company v. Mississippi* is that a State is without authority to impose a tax on gasoline sold to the United States for its official use. That decision is declaratory of a general principle which has been uniformly applied. Therefore, if the employee in this instance had been traveling alone the amount of the tax paid by and reimbursed to him would have been for collecting from the State. But the Federal employee was not required to take a person other than a fellow employee of the Government on an official trip in his private automobile. This was for the convenience of both the employee and the other person, and it has been the practice of the United States to reimburse an employee traveling under such circumstances with one-half of the cost of expenditures the benefits of which contributed to the furtherance of his official duties but were shared by the employee and the other person. The employee by taking along a person not traveling on official business of the United States has complicated the situation, however, by involving the question of the State tax and may not place upon the United States the burden of undertaking to obtain from the State a refund based upon a division of the State tax under such circumstances. While the Government may properly reimburse the employee for one-half of the expenditures for the gasoline and oil, it does not follow that the Government is required to reimburse the employee one-half of the State tax paid on the gasoline. The State tax may in that connection be viewed as indivisible which the employee will be required to bear himself, the condition being created by his own action and not by force of the travel on Government account.

A refund from the State should not be demanded in the present matter and hereafter employees will not be reimbursed for items of State tax on gasoline in connection with division of travel expenses where accompanied by others than those traveling at Government expense.

Your question is answered accordingly.

(This ruling has no reference to employees operating their automobiles on a 7¢ per mile bases. H.P.A.)

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8 Comp. Gen. 183

Transportation Requests.

Where the owners or operators of ferries at isolated points object or refuse to accept Government transportation requests, the traveler may make payment in cash and claim reimbursement therefor on his regular travel voucher with an explanatory note of the reason for failure to use transportation requests.

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Vol. 7 Comp. Gen. p. 221

Purchases-Reprints of Magazine Articles.

The purchase of reprints of magazine articles prepared by employees of the Government in their official capacity is a procurement of printing of official matter in contravention of the act of March 1, 1919, 40 Stat. 1270.

Claims for the purchase price of reprints of magazine articles prepared by Government employees will be allowed only upon a clear showing of fact that such articles were prepared by such employees as private individuals and not officially, so that the Government has no proprietary interest therein and no control over the right of publication.

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INDEX SHEET FOR TOPOGRAPHIC MAPS AVAILABLE

To the Agents in the Eastern States:

You will be interested in learning that the latest index sheet to U. S. Geological Survey topographic sheets of your State was sent your State leader on January 11, 1929.

When in need of topographical sheets it would be advisable to consult your State leader first, to learn what is available, before writing the Washington Office.

R. G. P.

A M O N G O U R S E L V E S

Mr. J. D. Kennedy, Assistant State leader in New York, resigned December 31st to accept a position as Assistant Professor of Extension at New York State College of Forestry, Syracuse University. Mr. Kennedy has been connected with the Office of Blister Rust Control since July 2, 1923, except for 6 months work with the Extension Service of the New York State College of Forestry. We wish him success in his new work.

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Mr. Ray R. Hirt, blister rust control agent at Syracuse, New York, resigned October 31st.

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Mr. C. E. Baker's headquarters were changed December 1st from Saratoga Springs, New York, to Voorheesville, New York.

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Mr. Robert S. Caruthers received an appointment as Junior Assistant (Physicist) in the Electrical Division of the Bureau of Standards, effective December 16th. Caruthers has been in the office every summer since June 1922, with the exception of 1927, as Field Assistant, Collaborator and Agent. He engaged in investigative work under the direction of Mr. Fivaz. Bob graduated in Electrical Engineering at the University of Maryland with a B. S. degree, and from the Massachusetts Institute of Technology with the degree of M. S. in 1928. We wish him success in his new work.

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P U B L I C A T I O N S

White Pine

Anon. - New Hampshire Improves White Pine Stands. American Forests and Forest Life, Vol. 34, No. 418, Oct. 1928, p. 635.

Anon. - Where, When, and How to Plant White Pine. Forest Leaves published by the Pennsylvania Forestry Association. Vol. XXI, No. 12, December 1928, p. 188.

Phillips, Henry B. White Pine. Forest Leaves published by the Pennsylvania Forestry Association. Vol. XXI, No. 12, December 1928, pp. 183 to 185.

Ulke, Titus. The "Why" of Timberline. (White Bark Pine and Limber Pine are included among the timber line species.) American Forests and Forest Life, Vol. 34, No. 418, Oct. 1928, pp. 583 to 585.

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BLISTER RUST NEWS



February, 1929.

Volume XIII

Number 2

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
Office of Blister Rust Control

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister Rust Control
and the Cooperating States.

VOL. 13, No. 2.

February, 1929.

SECRETARY JARDINE LAYS CORNER STONE

The corner stone of the main administration building of the Department of Agriculture in Washington was laid just before noon on Monday, January 14, by Secretary W. M. Jardine of the Department of Agriculture in the presence of Senators and Representatives in Congress and many of the people of the staff of the department.

The stone was laid at the northeast corner of the central, 5-story unit now under construction which will connect the buildings now known as the east and west wings, which were completed and occupied in March 1908, during the administrations of Theodore Roosevelt as President and of James Wilson as Secretary of Agriculture.

The new central unit will be occupied by the Secretary, the Assistant Secretary, the directors of work under the Secretary, the solicitor, and other officers and staffs concerned with the general administration of the department. Its front will be the central part of the main facade of the Department of Agriculture Building. The entire building will be, when fully completed according to the present plans, one of the largest office and laboratory buildings in the world. It is expected that the central unit will be ready for occupancy in May, 1930.

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WHY THE TOWN METHOD?

Mr. George F. Richardson in a well written article appearing in the Granite State Press of Lebanon, New Hampshire, for February 8, explains New Hampshire's town-cooperative method in blister rust control.

Individual requests for cooperation in protection of pine lots through Ribes eradication have been taken care of but the acreage covered under the individual method of eradication is infinitely small as compared to the "town method".

AN INTERESTING INFECTION STUDY AT CLARENDON, VT.

While scouting in the town of Clarendon for a suitable location for an infection study plot, I found a stand of young pine in which the conditions of infection were of especial interest.

This area was originally a pasture, part of which seeded in and reached log size as a practically pure pine stand. This was cut off eleven years ago in evidently a good seed year as a heavy reproduction took place immediately. I learned that the cutting and skidding were done during late summer and early fall. This resulted in the breaking up of the ground and exposing of the mineral soil and may account for the young growth.

At present, it is mostly a fully stocked stand but infection has taken place during the past six years amounting to 40 to 60 percent. Infection is general throughout, but of course it is heaviest in the vicinity of the many large bushes of the prickly-berried gooseberry (Ribes cynosbati). These grow for the most part among the rotting branches of the old stand; the stumps of which are so close together as to make it fairly certain that these bushes if present 10 years ago were very small. There are a number of similar stands in this district but this one is particularly striking because of the exceptional thriftiness of both the pine, the Ribes and the recent rapid increase of infection.

W. E. Bradder, Vt.

Edit:- Such instances as this which Bradder cites are just the ones which Mr. Fivaz is anxious to have recorded since he plans to visit these sites during the coming summer. Other agents are requested to keep a sharp lookout for striking Ribes conditions such as the above and to make definite records of their location.

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HILLSBORO COUNTY, N.H., BLISTER RUST AGENT RESIGNS

On October 19th, Mr. C. S. Herr, agent in charge of Blister Rust Control in Hillsboro County, resigned to enter a new avenue of forestry activity under the direction of the State Agricultural Extension Service. He is to be located in Lancaster, N. H. and will conduct a survey of wood-using industries and the opportunities in the further exploitation of northern hardwoods.

Mr. Herr came to New Hampshire in November, 1926, from Pennsylvania where he had been employed by the U. S. Forest Service. Since that time his work in this county has been characterized by much success, and the many friends he made during his brief stay in this district testify to the esteem in which he was held.

While this office as well as the rest of the New Hampshire Blister Rust organization regret the departure of Mr. Herr, nevertheless, all join in wishing him the best of success in his new field of activity.

L. E. Newman, "New Hampshire Forests", Dec. 1928, Vol. V, No. 4.

SOMETHING NEW IN BLISTER RUST EDUCATION.

At a recent meeting of the Grange in Pittsfield, Mass. where County Agricultural Agent Talmage had charge of the program, one of the features was an agricultural question contest in which all those present were divided into two teams and the leader asked a series of questions in much the same manner that a spelling match is conducted.

Five of the questions asked by Mr. Talmage are as follows:

1. Q. What tree is the most numerous in Berkshire County? A. White pine.
2. Q. What disease is spread by currants and gooseberries? A. White pine blister rust
3. Q. How may pine be protected from white pine blister rust? A. Remove all currant and gooseberry bushes within 900 feet of any pine.
4. Q. What variety of currants is it against the law in Massachusetts to grow? A. Black Currants.
5. Q. Why is it against the law to grow them? A. Because the white pine blister rust prefers black currants to any other variety.
(Black are more susceptible and produce the disease in greater abundance)

Mr. Talmage reports that questions one and four seemed to be generally known but that the other questions were not so readily answered. The 900 foot zone was a stumbling block to most of those present and an argument developed as to whether 900 feet was correct. The Pittsfield grange is made up largely of city people who have no direct interest in agriculture. There were about 125 persons present at this meeting and most of them now have a better idea of blister rust.

W. J. Enderbee, Massachusetts.

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GOOD COOPERATION IN VERMONT

Mr. S. V. Holden, Blister Rust Agent at Brattleboro, Vermont, has recently sent the Washington Office an illustrated mimeographed letter which shows the cordial cooperation existing between the County Agent, Extension Forester and the Blister Rust Agents. This letter called attention to a forestry demonstration by Mr. Callward the Extension Forester. The meeting was to be held December 18; Mr. Callward giving a demonstration on the thinning and pruning of white pine. Since Callward was formerly a blister rust control agent, and he and Agent Holden were both present, ample opportunity was given to consider the protection of the pine from the blister rust.

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BLISTER-RUST CONTROL ACTIVITIES IN N. H.

Season of 1928

In spite of the handicap of a late spring, and an unusually rainy season which followed, the area from which currant and gooseberry bushes were removed exceeded that covered in 1927, by more than 2,700 acres.

Cooperating with 75 towns, four cities and 37 individuals, the State Forestry Department's crews removed nearly 2,400,000 of these plants from areas aggregating 228,530 acres. The cost, as in the past, was most reasonable, averaging for the entire State, but 17 and 8-10 cents per acre. Due to the greater abundance of these bushes, and the conditions under which they grew, the cost in some towns, or in individual projects, was slightly higher.

Last March, at their annual meeting, 75 towns voted \$26,300 for Blister Rust Control. A few weeks later, four cities made available \$2,400; while three municipalities provided \$600 for the protection of white pines around their water supply. Individual pine owners, associations and lumber companies to the number of 37 put up monies aggregating nearly \$6,000.

The great flood of November, 1927, undoubtedly prevented many of our northern communities from continuing their blister rust program, since they found themselves obliged to appropriate large sums for the rebuilding of highways and bridges which this greatest of all New England floods had destroyed.

Undoubtedly, the weather of the late spring, and early summer months was a boon to those interested in forest fire prevention. On the other hand, rain day after day, and week upon week, whether in Coos or the most southern counties, not only discouraged the division blister rust agents, but made considerable inroads into the earnings of the crews, since these men are only paid half-time during wet periods. It speaks volumes for the character of the men employed when it is learned that but few deserted the ship on account of rain.

White-pine blister rust control in 1928, was divided into two main lines of endeavor, namely, initial control and re-eradication. In order to make more clear the difference in these two activities, it should be mentioned that initial control constitutes the removal of currant and gooseberry bushes for the first time; while re-eradication is the second examination of lands covered several years previously.

Some may ask, "If careful work is performed the first time, why is it necessary to re-examine the pine woodlands again?" The answer is this: It must be remembered that blister rust control was the first attempt in the history of the world to eliminate any plant injurious to an important timber tree. In the initial examination it is impossible to always prevent broken-off shoots of currant or gooseberry bushes, or to destroy seeds of these plants already in the soil. Hence, re-eradication is very necessary, five or more years after the initial work, the proper time depending largely upon the abundance and variety of these bushes the first time over.

To date, in New Hampshire, 60 towns and cities have completed this initial examination, in cooperation with the State Forestry Department. The State Legislature has consistently provided funds which permitted these com-

munities receiving financial assistance in eradication measures. In addition, six towns and cities have also carried on to completion a re-eradication program. Twenty-three (23) towns and cities are engaged in the second examination of their pine.

In 1928, the initial work conducted by towns, cities, individuals and upon State Forests, totaled 145,329 acres. In the re-eradication program 82,201 acres were re-examined.

There are 221 towns and cities in New Hampshire containing sufficient white pine to warrant control measures. Since 1918, the year when blister rust control was first inaugurated, 187 towns and cities have appropriated funds for the protection of their white pines. As elsewhere stated, 60 have completed this work for the first time. 127 are still uncompleted and 34 have never made any attempt to combat this disease.

Investigative work now being carried on in these towns, coupled with a strong educational program may be instrumental in creating an interest on the part of these towns in protecting their most valuable forest tree.

L. E. Newman in "New Hampshire Forests", Dec. 1928, Vol. V, No. 4.

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WHO CAN SAY THERE IS NO SENTIMENT IN A PLANTED TREE

One Sunday a few years ago I took an automobile ride with a friend to Loch Muller, Essex County, New York, and we stopped at Warren's for dinner and while there I noticed a sign on a very large white pine tree with this legend:

To All Lovers of Nature, Greeting:

On this spot in the year of 1845 this tree, a sapling of 12 years, was transplanted by me at the age of twelve. Seventy-five years I have watched and protected it. In my advancing years it has given me rest and comfort.

Paschal P. Warren,
June 1st, 1920,
Age 87 years.

Mr. Warren had died previous to the time I saw the tree.

E. G. Woodward, New York.

Edit:- Mr. Woodward sent in two excellent photographs of this pine tree. I hope that Mr. Woodward has already secured the cooperation of the present owner in the elimination of the currant and gooseberry bushes around this noble pine in order to carry on the loving protection that was given it by Mr. Warren during his lifetime.

WHITE-PINE BLISTER RUST SURVEY IN PENNSYLVANIA

By W. A. McCubbin

Blister rust surveys were carried out in Pennsylvania in 1928 through the medium of a number of agencies; namely, through the fire wardens of whom there are 4,100; through the schools; through a scout who visited the schools reporting infection in 1927; and through miscellaneous technical agencies.

Each fire warden was requested to look at five lots of currants or gooseberries in his immediate neighborhood. Reports were received from 171 members of the 4,100 who were requested to aid in this survey. These reports were scattered over fifty counties, the greatest number coming from any one county being ten from Clearfield. The reports indicated that examination of Ribes had been made in 501 locations; specimens were not sent by 80 of those reporting; the number of individual lots of specimens submitted by the remaining 91 reporters numbered 269. Of these, 14 bore rust. The distribution of these 14 cases was as follows in 8 counties: Bradford, 2; Clarion, 2; Lycoming, 3; Mifflin, 1; Sullivan, 2; Susquehanna, 1; Tioga, 1; and Wayne, 2. From the statements of varieties examined as well as from the specimens submitted the Ribes examined in this survey were present in the following proportions: Black currants (European) in 36 gardens to the number of 204 plants; black currants (American) 12 gardens, 42 plants; red and white currants, 112 gardens, 1308 plants; gooseberries, 63 gardens, 407 plants; wild Ribes, 48 locations, 532 plants; and Ribes with variety not given, 48 locations, 1057 plants.

Supplementing the reports by school teachers in 1927, certain teachers who failed to send in reports in 1927 sent in reports in 1928 to the number of 50 from 7 counties. Armstrong County contributed such reports from 23 schools which involved examination of 158 gardens; from Berks 20 schools reported examination of 156 gardens; Clarion 1 school, 4 gardens; Elk 1 school, 9 gardens; Indiana 3 schools, 22 gardens; Lebanon 1 school, 10 gardens; and Westmoreland 1 school, 6 gardens. These 50 schools in 7 counties examined Ribes in 365 gardens or about 7 gardens per school.

In further tabulating these results it is seen that 247 envelopes containing suspicious leaves accompanied these reports; and the reports indicated the occurrence of black currants in 60 gardens. Of the specimens submitted, 6 were European black currants, 13 American black currants, 161 red or white currants, 93 gooseberries, and 13 flowering currant. Six envelopes contained no Ribes leaves and 1 was without contents.

A limited school survey was carried on in 1928, requests for information being sent to those schools who had reported rust in 1927. The request for a check up by the schools on the gardens infected in 1927 was sent out early in September. Practically all reports were in by Nov. 1. While only 94 schools reported out of a total of 253 asked to again aid us, yet their contributions make a very creditable showing and in view of the disappointing results from the Forestry survey, they are of unusual value. Of these 94 school reports 25 were accompanied by specimens showing rust, and these rusted specimens came from 13 counties out of 29 from which reports were received.

O.V.W. - 2-13-1922.

As a further check on the general blister rust conditions it was decided to scout during July and August as many as possible of the locations reported by the schools in 1927 as having blister rust. In scouting among the schools Mr. Hertzler reports that difficulties were met in locating the gardens concerned. The schools were not in session at the time, the teacher's address given in the report was not always close to the school concerned, and the schools were in many cases located in parts of the country difficult of access. In spite of these difficulties and the handicap of much wet weather, Mr. Hertzler visited 28 out of the 37 counties which reported rust in 1927. In these counties he was able to visit 144 of the schools reporting rust the previous year. In the case of 49 of these schools rust was again found this season and it was absent in 95. On the basis of gardens examined, this survey covered 204 gardens in 64 of which he found rust and in 140 none.

In his notes covering the summer's work Mr. Hertzler comments as follows: "The people visited were interested in the blister rust. In most cases the mother of the children concerned in the school survey of 1927 was interviewed and the reaction on the parents of the children in the school survey was very favorable. They wanted to help and wanted to learn all they could and were pleased to have the children investigate such matters. Many of the children showed unusual interest. At one place a farmer had removed the diseased bush as soon as his daughter had reported it infected with blister rust last fall during the school survey. This man had some fine white pines in a wood lot of which he was very proud. At a number of locations the owners voluntarily offered to remove the black currants when they learned of the blister rust."

Pine Infections in the State

By the end of 1928 pine infections were known to be present in 6 counties in the northern half of the State. A map giving the infected counties is shown on the opposite page.

Ribes Eradication in Penn.

The movement to protect pines by Ribes eradication was put under way in 1928. Efforts were made to destroy all Ribes around young pine plantings on the Fox Estate in Clarion County. Eradication in the Cook Forest is urgently needed. A portion of the Sinnemahoning plantation in Wyckoff Run was worked in June and a partial eradication was made on the land of Marvin Price near Damascus in Wayne County. Those two areas were done by way of demonstration and the work was carried out by the Department of Forests & Waters with the cooperation of the State Department of Agriculture and the Federal Office of Blister Rust Control.

The small isolated infection in Lycoming County is in the midst of farm land. Steps are under way to protect the area near Renovo which is on State land; and there are also plans to protect the National Forest at Heart's Content. Although no pine infection is yet known at Fairmount Springs three pine owners there after interview are taking steps to protect their young pine plantings and reproduction areas. Four pine plantings of some size at Reading, York and Paradise have been examined during the summer and found to be free from Ribes or to have but few which the owners will remove. In general it is found that the actual finding of pine infections in the State, and observations of the damage done by the disease has given the pine owners an impetus toward eradication such as they never had before.

White Pine Blister Rust Survey in Penn. Cont'd.

The preceding is an extract from Dr. McCubbins annual report for 1923.

SERIES OF CIRCULAR LETTERS

Mr. George F. Richardson, Agent at Lebanon, New Hampshire, has recently written a series of circular letters to be used in the various towns in his district just prior to Town Meeting. These letters have a great deal of merit and should bring results, that is, cooperation from the "backward towns". Each letter deals with the blister rust situation peculiar to that town, and it also summarizes the control work in the State. If any agent desires a copy of one of these letters he can secure it by writing Mr. George F. Richardson, whose address is 17 Bank Block, Lebanon, New Hampshire.

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TELIAL STAGE OF BLISTER RUST FOUND ON RIBES NIGRUM, JAN. 26.

Can You Beat This?

The following item was gleaned from a Weekly Itinerary Report:

"January 26, 1929, E. M. Brockway, Agent, Sharon, Massachusetts. On black currant work all day. Found only one planting. Some of the leaves were still hanging on and I could discern the telial stage, the first case of probable overwintering on leaves that I have ever seen."

C. C. Perry, Mass.

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A REVIEW OF LAST SEASON'S CONTROL WORK IN CONN.

Now that the 1928 blister rust season is behind us we have had time to slow down enough to take stock of our accomplishments and are beginning to plan for the 1929 season. We seem to have had a fairly prosperous year in spite of the unusually rainy weather which has served more to dampen our spirits than to seriously retard the work. That we are working out the concentrated pine-Ribes area becomes apparent when our figures show that we eradicated the Ribes on 54,201 more acres in 1928 than in 1927, yet we pulled 35,472 less Ribes. The Ribes per acre in 1928 averaged 1.65 against 7.61 Ribes per acre in 1927.

If we have good luck with town and individual appropriations, and show plenty of initiative, and don't get an unusual amount of rainy weather, and our State money holds out, we might complete our initial eradication by July 1st, 1930, providing the unscouted towns on our schedule turn out as we hope and expect. I think this is a safe prediction.

J. E. Riley, Conn.

SOME OF THE TOUGH HURDLES

While interviewing different leaders in one of my towns, it was suggested that I call on the largest pine owner and taxpayer in the town. This man also owns over 100 head of cattle. A number of infected trees had already been located a short ways from his house. The following is about the conversation that took place.

Agent: How do you do Mr. P, I see you have a mighty nice looking bull there."

Mr. P. "Yes, I guess he is as good as any around here but I can't get much for my milk or cattle because they have never been tested and I don't plan to have them either because it is all dam "foolishness."

Agent: "I was just looking over some of your pine. I see you have some nice young growth there."

Mr. P. "Guess you must be on that Blister Rust Work aren't you?"

Agent: "Yes, I now have your town added to my district."

Mr. P. "Well, your predecessor was here to see me, and he told me I had some down there but I am not interested and don't believe in spending money to pay for you fellows to hunt currant bushes."

Agent: "Have you seen the infected trees down here below your house?"

Mr. P. "No, and I don't want to go down to see them. Guess there will be pine after I'm dead. Why don't you go up and see Mr. F? He is against it too."

Agent: "Well Mr. P. don't you think it would be fair for you to at least support the work for one year so that you can see for yourself just what is done and at the same time check up on the different statements you have heard?"

Mr. P. "Well, Mr. -. What did you say your name was? I think you fellows are all right but we have always had blister rust and it hasn't done much damage and I don't think it will. I have always done what I could to stop the town from appropriating money for it and don't plan to change. Fact is, taxes are too high now."

Agent: "Well, Mr. P., you know there are 17 States in the United States carrying on control work and 187 towns here in New Hampshire have been carrying on the work since 1918. Sixty of these towns have kept at it until their pine areas have all been examined and then besides that some 600 pine owners have cooperated by paying for the work on their own land. Do you think them all wrong and the voters in your town right?"

Mr. P. "You had better go up and see Mr. F. or Mr. W. Both of them are against it too. I got to get this bull back in the barn and then go down town."

Agent: "I hope you will watch those trees which I have tagged down there and if I can help you in any way regarding your woodlot let me know."

Mr. P. "Well, you never will get this town to do anything about the blister rust."

Agent: Don't let me keep you from your appointment down town, but I would like to have you read these over some time and if you think that you would like to see some other areas where the disease has done a great deal of damage, I would like to show you an area in the next town that is badly infected."

Mr. P. "No, it wouldn't change my mind about it."

Here I told him I would go and see some of the others in the town and that I would very likely see him again some day. He said, "Sure drop in when you are around."

G. F. Richardson, Jr., N. H.

MISTLETOE ON WESTERN PINES

S. B. Detwiler recently sent the Washington Office specimens of mistletoe on the Mexican white pine (Pinus strobiformis) and western yellow pine (Pinus ponderosa). The specimens were collected January 30, 1929 on the north slope of Old Baldy, Santa Rita Mountains, Arizona. Mr. Detwiler notes that, "Much of the Mexican white and yellow pine is being killed by mistletoe". The specimens have been forwarded to the Office of Forest Pathology.

PINE INFECTION IN SOUTHEASTERN NEW YORK

To determine the amount of white pine and blister rust conditions in southeastern New York, Messrs. Hodgkins and Harpp spent the month of December working in 44 towns in this section of the State. The pine infection information was needed especially in connection with Doctor Pennington's epidemiology study of blister rust. Data for BR-41 cards were secured for thirty towns in Orange, Sullivan, Delaware, Otsego, and Chenango Counties. These cards show for each town the year of the oldest canker, year of the first heavy wave of infection, and year of heaviest infection. According to Mr. Hodgkins, the amount of time spent in each town varied considerably, and the area examined was only a very small portion of the forest area, except in a few towns where pine mapping was conducted. In most towns visited, it was an easy matter to locate blister rust, when Ribes and pine occurred together, especially in moist sites. Some of the towns had very little pine, notably those along the New Jersey line. However, the towns of Lumberland, Forestburg, and Highland in Sullivan County have considerable pine, both merchantable and reproduction. There is also a large amount of pine restocking in other types. The studies show the disease became established in the various counties as follows: Orange - 1914; Sullivan - 1911; Delaware - 1914; and Otsego - 1909. The following table, by Mr. Hodgkins, shows infection conditions in the various towns, and indicates that the disease spreads by long-distance jumps during favorable seasons, with resulting establishment of spot infections and later concentrations of the disease locally from such infection centers.

E. C. F.

Summary of Pine Infection Conditions in Southeastern New York,
as Determined by Scout Work Performed by Messrs. Hodgkins and Harpp
During December, 1928.

<u>Town</u>	<u>Age of Oldest Canker</u>	<u>Age of Youngest Canker</u>	<u>Remarks</u>
Lumberland.....	1916	1926	A good demonstration area - one virgin pine with stem canker - age not determined.
Forestburg.....	1914	1925	
Highland.....	1915	1926	Good demonstration area.
Deerpark.....	1914	1926	" " "
Mamakating.....	1922	1924	Six cankers found.
Thompson.....	1915	1925	Could be used for demonstration.
Tusten.....	1920	1926	Near Neweiden.
Cochecton.....	1911	1922	
Delaware.....	1915	1926	
Bethel.....	1919	1926	(White Lake)
Fremont.....	1926	1926	
Colchester.....	1915	1926	
Walton.....	1924	1926	All young cankers.
Delhi.....	1918	1926	Could be used for demonstration.
Harpersfield.....	1920	1924	" " " " "
Davenport.....	1914	1926	(Middlebrook)
Middlefield.....	1914	1927	(Clark property) many infections cut out.
Otsego.....	1917	1926	
Hartwick.....	1921	1926	Good example of mortality of young pines 5-10 years old.
Milford.....	1918	1924	
Laurens.....	1909	1927	Good demonstration area.
Morris.....	1914	1927	
Pittsfield.....	1924	1926	
Franklin.....	1920	1923	
Meredith	1919	1925	
Otego.....	1917	1926	Plenty of cankers here.
Bainbridge.....	1917	1926	
Guilford.....	1924	1925	
Masonville.....	1924	1925	
Maryland.....	1917	1925	Plantation - could be used as demonstration area.

Note: Pine infection was found in seven additional towns in this
region during the first part of January, 1929.

SOME NOTES FROM MAINE.

During the month of January, Agent Lambert worked in York County in an attempt to show some of the 'uninterested' towns just how much damage blister rust was doing. We hope these towns have become interested enough to want to start control work in 1929.

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To date, we have had very little snow in Southern Maine but the rodents are working on the cankers just the same. Was in a lot last week where almost every canker had been gnawed.

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Last week, one of the Selectmen; in a town that has never raised co-operative blister rust funds, spent a day with me looking over various lots in his town. He was open-minded, seemed anxious to learn and he saw considerable rust. Hope he will pass the word along to his townsmen.

S. D. Conner, Maine.

A SUMMARY OF BLISTER RUST CONTROL WORK
IN MASSACHUSETTS - 1928

Blister rust infection on white pine and on Ribes was very much in evidence during the field season of 1928. Infected pines were located in 43 additional townships in the State, which record brings the total number of pine-infected townships to 278.

In spite of the most unfavorable conditions for Ribes eradication work, splendid cooperation on the part of land owners throughout the Commonwealth, and the exercise of patient persistence on the part of the field force, resulted in initial examinations for Ribes on 223,158 acres of pine lands including adjacent protective areas. On this area, 495,923 wild Ribes and 31,808 cultivated bushes were found and uprooted at an average total cost of 11¢ per acre of land examined. This work was participated in by 1,019 property owners who removed wild and cultivated Ribes and by 951 owners who only had cultivated bushes.

A limited amount of Ribes re-eradication work was performed. In this project 15,875 acres were reexamined by 62 cooperators and 25,437 wild and seven cultivated Ribes destroyed, as additional protection to the white pine on the areas involved.

By the use of a new type of roadside demonstration, a larger number of individuals than ever before were informed about the disease and the method of control.

Feb. 9, 1929

C. C. Perry, Mass.

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COMMENTS ON THE NEW YOPK ANNUAL BLISTER RUST REPORT

After the rush of the eradication season is over and we settle back to a more meditative stage there are things that come to us which happened the past season which I think might prove of interest to others. We all have very good alibies during the rush of the season for not sending in news items but now that we have a chance to do some thinking, we inadvertently turn to the past. This reminds me of a crack I heard recently when a young lady addressed a feeble old gentleman,

"You haven't much to look forward to, have you", she said.

"Maybe not", he replied, "but I've got an awful lot to look back at".

I don't know so much about the future but certainly we Blister Rusters have something to look back at.

I have just finished reading the 1928 New York State Conservation Report on Blister Rust and it certainly is interesting and instructive. Mr. McIntyre is to be congratulated on getting together such a fine report. After reading it I pushed out my chest and said to myself, "That puts us fellows on the map, I guess". And the pictures that go with it are fine. Take that picture of Pratt for example with his corn-cob doing homage to the "Hosts" the skunk currants. Look at Charley Baker with the tractor pulling 'em out. Husky Charley, I believe if you dug your heels in you could have done it yourself. But as Henry Ford says, "They aint going to any of us work pretty soon so what's the use getting all het up." Then there's Holcomb officiating at the demise of a strob. A great many people seem to think if they have no cultivated currants or gooseberries on their premises their pines are protected. A good look at some of these pictures in this report ought to convince them otherwise.

The Annual Report of the Conservation Commission has a wide distribution throughout the State and is an interesting piece of reading to anyone. In it is given with, copious illustrations, the wide interests of the State in the protection and preservation of our forests and forest life on both public and private property.

H. G. Strait, New York.

BLISTER RUST EXHIBIT AT SPORTSMEN'S SHOW

Under the auspices of the Grafton County, (N. H.), Fish and Game Association, a sportsmen's show was held in the Lebanon Town Hall which was attended by several thousand people. While many of the exhibits were by advertisers, there were other instructive exhibits by the N. H. Fish and Game Commission and by the Forestry Department cooperating with the Federal Department of Agriculture. Mr. George F. Richardson, local blister rust agent, staged the blister rust exhibit.

The protection of the forest goes hand in hand with the protection of the game in the woods and the fish in the streams.

R. G. P.

LESSONS FROM A BLISTER RUST DISPLAY AT AN AGRICULTURAL FAIR

We destroy: the better to build. Witness the demolition of the older buildings in our cities to be replaced by the modern skyscraper or the tearing down of the old homestead with its spacious grounds, only to be re-placed by a dozen or more modern houses crowded on the one lot. Similarly, we criticize, in order that we may plan constructively. To this end, I would like to criticize, possibly to a degree adversely, a blister rust exhibit that was staged at the Eastern States Exposition at Springfield, Massachusetts in September of 1928. Incidentally, let it be recorded that on the basis of sample counts, it is estimated that 150,000 persons passed through the Massachusetts State Building in which the display was housed.

Some impressions of the exhibit may be gained by reference to the accompanying illustration. Briefly, it comprised an elaboration of the roadside panels used during the field season, one type of which was sketched in the January 1929 number of the NEWS. These displays consist of open panels or frames so arranged that infected pine trunks may be displayed in an upright position. Now, let it be noted first of all, that this particular display was judged as one of the best demonstrations that we have ever had in Massachusetts, and we have had some good ones! And yet, let's analyze it and see how it could have been improved.

For purposes of discussion or criticism, the display may be divided into four major parts; namely, frame, specimens, signs, and a motion picture outfit.

The frame requires no discussion except to record that it was constructed of finished 2 x 3's with four plain boards used as a backing for the signs. The frame was painted white to be in harmony with the other displays in the building.

The specimens used were infected stems varying in diameter from 6" to 18". They all had, not only perfect stem cankers, but showed in the clearest possible manner, the original infecting branch cankers. In addition, red arrows (shaped and cut from the red field tags) were so placed on the specimens as to point directly at this canker. But, did these tags with their informing legend - THIS IS A BLISTER RUST CANKER - successfully inform the public? They did not! The tags or rather the legend was read aloud by nearly everyone who was sufficiently interested to stop at this display, but then the unfailing query would be - "But where is the canker?" And of course, few knew what a canker was anyway. So much for that, temporarily.

Another comment that was quite common and therefore of interest, was in effect that, altho these particular specimens were infected with blister rust, the disease had not been of sufficient harm to prevent the trees from reaching present-day merchantable size, and, therefore, they could have been put into lumber without serious loss of income. A statement, which for some of these particular specimens was probably true.

WHITE PINE BLISTER RUST CONTROL.

Massachusetts and U.S. Departments of Agriculture Co-operating.

BLISTER RUST

is a disease of
conifers and
very destructive
to the forest.

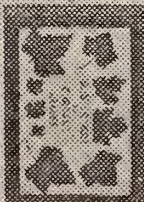


Spread
of
Blister Rust
on
White Pines

will grow
when can't go

The BLISTER RUST

does not spread
from
Red to Pine



Spread
of
Blister Rust
on
White Pine

Unfortunately, one of the specimens was covered with the usual hardened excretion of pitch which is so often the case. This specimen evoked the familiar comment, "Oh, I have seen that many times in my woodlot, even as a boy, many years ago!".

In different words, then, these particular specimens, altho showing most splendid blister rust cankers, were not sufficiently unusual to attract the sympathetic attention of the casual observer. Without any thought of exaggerating blister rust damage to white pine or to show unusual or special features, what is really needed for display purposes, is a specimen showing unusual stricture or swelling, discoloration, etc. which will instantly strike the observer and tell him why blister rust is serious; namely, that it does so injure white pines as to absolutely prevent the trees from reaching commercial maturity. All the specimens need not show serious defects as suggested above, but there certainly should be one or two which have such outstanding characteristics of serious damage.

To return for the moment to the inability of the casual observer to recognize a blister rust canker. I believe that herein lies the whole difficulty, and it would appear that what is really needed is some sort of a white background, a collar if you please, that could be fitted on to the trunk in some manner, so that the canker will appear in bold relief against the white background and entirely separated from the rest of the trunk.

So much for the SPECIMENS part of the display. And in passing, just let me say, in order to obviate any comeback from the readers of the NEWS, that I fully appreciate the fact that with an attendant always on hand, the confusion in the minds of the observer can be obviated by timely explanation by the attendant. It is my contention, however, that even though the display is properly manned, it should "speak for itself".

Let us now consider, the third feature of the display; namely, the signs. These were actually prepared by a professional sign painter through the cooperation of Agent Wheeler. It is gratifying to say that the signs used in this display were an outstanding success and really made up for the defects which have been discussed at such length. They were six in number, but four were grouped on the side panels (see illustration) as to make two signs rather than four. All the signs were simply and briefly worded, and the method of lettering was such as to add just a bit of animation to the statement. The word SPREAD for example was so lettered as to denote action. Likewise, the word UPROOT had some little flourish that was telling. In addition, they were most attractively framed so to speak, by the use of "quarter inch half round" painted green.

To start at the top of the frame, we have the customary sign indicating the agencies cooperating in the demonstration:

WHITE PINE BLISTER RUST CONTROL

Massachusetts and U. S. Departments of Agriculture Cooperating

This was small and relatively inconspicuous and yet sufficiently large to give to the display the necessary authorization.

Immediately beneath this departmental sign, there appeared the "hit of the show", in the following sign from the pen of Agent Endersbee:

White pine will grow where the plow can't go

This one sign alone, made the exhibit worth while! By actual count, nine out of ten of the people looked at that sign, if they saw nothing else in the display. They not only read it, and read it aloud, but they were impressed by it they were pleased with it; they agreed with it, for they knew from personal experience or observation that it was a fact. This sign was flanked by two photographs; one a combination of an enlargement of a fruiting canker, and an infected flowering currant leaf; and the other, an enlargement of the "Farm Woodlot Scene-Petersham, Massachusetts" one the most attractive photographs, of I believe, in the official blister rust collection of photographs on file at the Washington Office.

The remaining signs were on the lateral panels. These signs were of the usual descriptive type constituting what I like to speak of as the Blister Rust Axioms. The wording was very carefully thought out, however, and so arranged as to tell the facts simply and systematically. These signs were as follows:

BLISTER RUST is a disease of currant and goose- berry bushes and white pines Currant and Gooseberry Bushes of all kinds SPREAD Blister Rust to White Pines
--

The BLISTER RUST does not spread from Pine to Pine UPROOT Currant and Gooseberry Bushes to Protect White Pines

Separating the twin signs on the lateral panels, two Riker mounts were added just to complete the picture, so to speak. One mount contained small infected twigs showing aecia, preserved in neatly labelled test tubes by Agent Doore. The other contained a few Ribes leaves, mostly R. nigrum showing uredinia and telia.

It has been said that one of the difficulties involved in putting on a successful blister rust demonstration, is that it is not always possible to get animation into the proposition, and this brings us to our fourth part of the display. In this particular instance, action was supplied by the use of a "continuous performance" motion picture machine and screen. The outfit used has the rather formidable and yet perfectly descriptive name "THE CAPITOL SELF-OPERATING CONTINUOUS MOTION PICTURE PROJECTOR". The machine is concealed in the

rear of the display frame by a number of small pines, the screen coming directly in the center of the trunk specimens and thereby fitting neatly into the "picture". For the purpose of a film, a request was made of the Motion Picture Laboratory of the U. S. Department of Agriculture and through the cooperation of that office, a narrow width reel was purchased. This reel contained that portion of the film "THE PINES" that deals particularly with the different stages of the disease and with the actual eradication of Ribes. This abbreviated film took just four minutes to run off and with the splendid captions which it contains, proved a very helpful and useful adjunct to the display. The only difficulty encountered was that the film could not withstand the strain or the heat of continuous operation for periods of from ten to twelve hours a day and by the end of the week, it had been mended almost beyond recognition. This matter could have been remedied, however, by having two or more films instead of the one, thus allowing each film sufficient time to cool off for a definite period.

And now in conclusion, let me add that one of the outstanding lessons learned from this display was that there is a real need for a new, small, simple and few-worded circular for liberal distribution in connection with just such projects as this one. Any one who has been in attendance at a display at any of large fairs during "Children's Day", will appreciate the point in mind. Children clamour for something printed that they may either use at school or tear up and "scatter to the four winds". To me, it is useless if not improper, to distribute for either of such purposes, such a pamphlet as Miscellaneous Publication No. 22. A service could be rendered, however, and a distinct need filled, if we had some such abbreviated circular as suggested above. If such a circular is used by the recipient thereof, it will have accomplished some purpose; if it is thrown away, the waste involved is not a serious one.

And thus have I endeavored to persuade myself at least, not to be satisfied with a good-looking exhibit, but to look for its defects and try to profit thereby. If in all this, there is a constructive suggestion for any member of the blister rust organization, then my efforts may not be entirely self-centered.

February 9, 1929.

C. C. Perry, Massachusetts.

NOTES FROM THE THIRD NEW ENGLAND FORESTRY CONGRESS

One of the features of the 3d New England Congress held at Hartford, Conn., February 1st and 2d, was the exhibit of maps, models, charts, photographs, ets., showing some of the forestry conditions in each of the New England States. Among the subjects treated were fire prevention, utilization of forest forest products, silvicultural treatment of woodlands and insect and disease control.

Maine showed the status of various forestry activities through the medium of posters. One of these was devoted to the outstanding facts in the blister rust situation there. New Hampshire and Rhode Island featured fire prevention showing fire towers and communication system. Vermont featured the products of their wood-working industries. Massachusetts displayed models illustrating silvicultural treatment of woodlands. Posters above each model explained the purpose of each treatment and the number required. They told where and when they should be practiced and also gave an average cost of the work. Weeding, thinning, reproduction cutting, and harvesting were thus treated. The Rhode Island exhibit while devoted principally to fire prevention, showed a white pine stand and brought out the fact that blister rust must be reckoned with.

To me, one of the most interesting things in the Connecticut exhibit was Hawes' charts showing the division of forest area in the State. According to the chart, 30% of our forest area is in the sapling stage (1-20 years old), 56% is in the cordwood stage (20-60 yrs.) and 14% is in the timber stage (60 yrs. and over). Another chart showed that 51% of our land area is open and 49% is forest. Of the forest area, 75% is in mixed hardwood, 10% is in a mixture of softwoods and hardwoods, 1% is in soft woods, and 14 % abandoned. (Of course our principal softwoods are pine and hemlock. We have no spruce, or at least very little.)

The principal subjects considered by the New England Congress were forest protection, marketing, floods and water power, recreational uses of the forests, and the esthetic development of New England. The Congress was preceded by the winter meeting of the New England Section of the Society of American Foresters. There was a morning, afternoon, and evening session devoted largely to the forest economic situation in New England.

J. E. Riley, Conn.

- - - - -

STANDARDIZED GOVERNMENT TRAVEL REGULATIONS ARE AMENDED

The Federal Traffic Board, through a Committee which had the assistance of representatives designated by all departments and establishments, has agreed upon amendments to the Standardized Government Travel Regulations. These amendments are embodied in a revised draft of the Standardized Government Travel Regulations and will be printed in pamphlet form, 4 inches by 5½ inches, with a cover. These amended travel regulations will become effective on March 1, 1929.

Dec. 19, 1928.

ONE OF FIVE WALL CHARTS ON FORESTRY USED BY STATE OF MAINE AT THIRD
NEW ENGLAND FORESTRY CONGRESS, HARTFORD, CONN. FEBRUARY 1 - 2.

BLISTER RUST CONTROL

Map of Maine
Showing
Pine Area and Area
In Which
Blister Rust Control
Has Been Carried On.

The State and U. S. Department of Agriculture cooperate with towns
and pine owners.

3,000,000 acres white pine to protect.

1,971,578 acres have been worked once.

12,938,741 Ribes destroyed.

8,855 pine owners have cooperated.

305 town appropriations raised.

Control work conducted in ten southern counties.

Pine infection in every pine lot.

Study plots show 35 to 90% infection in reproduction

" " " 50 to 95% " " plantations.

The State and U. S. Department of Agriculture furnish education,
scouting and supervision.

Towns and owners furnish funds or labor for eradication.

By Henry B. Phillips.

(Continued from January Issue)

The Department (of Forests and Waters) now collects a large amount of the white pine seed needed for its forest tree nurseries. In 1927 more than two thousand bushels of white pine cones were collected in thirteen of the twenty-four Forest Districts of the State. The cones were shipped to the seed extraction plants at Mont Alto and Greenwood, and yielded 1,832.5 pounds of cleaned seed at \$1.64 per pound. During the same year the Department purchased 975 pounds of white pine seeds for \$2,337.50. Among the seed supply stations established on the State Forests last year was a seed supply station in a 75-year old stand of white pine near Greenwood, on the Logan State Forest.

White pine is subject to attack by one insect which does considerable damage, and by one serious disease. Effective control measures for both these troubles - the white pine weevil and the white-pine blister rust - have been worked out and are being applied with success. Freedom from the blister rust is assured by re-moving all bushes of ** and cultivated black currants within 900 feet of the trees. The white pine weevil is particularly a foe of pine during the first ten to fifteen years of its life, and attacks the main leaders of the trees. It may be controlled by hand-picking the weevils, cutting out the infected leaders, and maintaining parasite "trap-nests" within plantations. The encouragement of insectivorous birds is also effective.

One of the oldest and thriftiest plantations of white pine on the State Forests is the planting at Caledonia, along the Lincoln Highway between Chambersburg and Gettysburg. These trees were set out in 1907 at the rate of 2,700 per acre. The trees were planted close to keep them from becoming limby and to produce tall, straight trees and knot-free timber. Close planting requires early thinning. This stand was thinned in 1923 and again in 1928. There are at present 1,300 trees per acre, with an average height of 32 feet and a diameter breast-high of 5 inches. The wood volume is 2,500 feet per acre, or 1.93 cubic feet per tree. The average growth of this plantation during the first twenty-two years of its life has therefore been 114 cubic feet - approximately one and one-third cords - per year. The plantation is entering the period of its most rapid growth. Should the present average growth be no more than maintained, and the stand properly thinned from time to time, it will contain 5,700 cubic feet at the age of 50 years and easily cut 35,000 board feet of high grade lumber. The thinnings that are secured from the 25th to 50th year will provide an added source of considerable income. As the result of experiments made in recent years, white pine has been found suitable for pulp and paper manufacture, in mixture with other woods. The pulp mills, which use sticks of wood down to three inches in thickness, afford a commercial outlet for early thinnings from white pine. The boxboard industry, which is using smaller boards from smaller trees than perhaps any other, also offers one of the best opportunities for utilizing thinnings from white pine while the forest is developing to maturity.

* Extract from "Forest Leaves", December 1928, Vol. XXI, No. 12, pp. 183-185.

** The author thro an error inserted the word barberry instead of currants and gooseberries.

Edit:- The cultivated black currants should be destroyed within one mile of the white pine.

NOTICE TO NURSERYMEN SHIPPING CURRANT OR GOOSEBERRY PLANTS
OR FIVE-LEAFED PINES

Blister rust Control Areas Established in Connecticut

The State of Connecticut has recently set aside several areas as blister-rust control areas, within which the growing or possession of currant and gooseberry plants is prohibited (State Quarantine Order No. 17, effective October 1, 1928). As a result of this measure, the control area permit requirements of Federal Quarantine No. 63 are now applicable to the State of Connecticut, and accordingly no currant or gooseberry plants or five-leafed pines may be shipped into any part of the State unless a control-area permit is attached to the container (see Regulation 4a). Application for such permit should be addressed to the State Entomologist, Agricultural Experiment Station, New Haven, Conn., and should state the kind of plants to be shipped and the names and addresses of consignor and consignee.

The control areas consist of 1500-foot zones surrounding certain white-pine-growing nurseries at Cromwell, Stratford, Woodmont, Deep River, New Canaan, Cheshire, Southport, Yalesville, Waterford, and West Hartford.

List of States Having Blister Rust Control Areas

The list of States which have legally established blister-rust control areas at the present time, and the addresses of the officers in each State to whom application for permit should be made, are given below:

ConnecticutState Entomologist, Agricultural Experiment Station, New Haven, Conn.
Idaho.....	Director, Bureau of Plant Industry, Boise, Idaho.
Maine.....	Forest Commissioner, Augusta, Me.
Massachusetts.....	Director, Division of Plant Pest Control, State- house, Boston, Mass.
Michigan.....	Inspector in Charge, Orchard and Nursery Inspec- tion, Bureau of Agricultural Industry, Lansing, Mich.
New Hampshire.....	State Nursery Inspector, Durham, N. H.
New York.....	Director, Bureau of Plant Industry, Albany, N. Y.
Rhode Island.....	State Entomologist, Kingston R. I.

Washington and Oregon may establish such control areas in the future and it is recommended that those desiring to ship Ribes or five-leafed pines into these States should request definite information on this point from the proper officers in advance of shipment. Concerning consignments into Oregon, address the Secretary, State Board of Horticulture, Portland. For shipments into Washington, address the Supervisor of Horticulture, Olympia.

C. L. MARLATT,
Chief, Plant Quarantine and Control Administration.

Jan. 25, 1929

AMONG OURSELVES

On the 19th of this month (February) State Leader Perry completed ten years of continuous service as the responsible Federal official in charge of blister rust control work in the Commonwealth of Massachusetts. Let's hear of some other "Birthdays".

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Miss Mary B. Grandfield, Agent, Montpelier, Vermont, resigned February 9th.

- - - - -

Mr. Harry J. Daly, Clerk in Charge of Property in this office, was transferred February 9th to a similar position in the Office of Forage Crops.

- - - - -

You bowlers beware! It is reported that C. C. Perry knocked the "Ducks" for 153 on a Hartford, Connecticut alley the other day. It was his first experience with this species of pin and he insists that it was just a lucky streak. His present average in a Boston Pin tournament at his home city (Newton, Massachusetts) "Y" is only 103.

- - - - -

January seems to have been a bad month from the standpoint of sickness. The gripe or flu, colds, tonsillitis, and the like, have cut in on the blister rust workers in the field as well as in Washington. Three-fourths of the Washington Office have been sick at one time or another during January. Word has been received from Messrs. Bowlby, Doore, and Riley that they have recovered from their sick spells. We trust that the others who have been in the "sick ward" have now regained their health.

PUBLICATIONS

Blister Rust

Hubert, Ernest E. Relation of Forest Management to the Control of White-Pine Blister Rust. Journal of Forestry, Vol. 26, No. 7, Nov. 1928, Pages 892-898.

Violette, Neil L. White-Pine Blister Rust. Biennial Report of the Forest Commissioner of Maine for 1927 and 1928. Pages 21-23, and 83-88.

3





BLISTER RUST NEWS



March, 1929

Volume XIII

Number 3

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
Office of Blister Rust Control

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. D.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister Rust Control
and the Cooperating States.

VOL. 12, No. 3.

March, 1929

NEW DAMAGE STUDY PLOT AT KEESEVILLE, NEW YORK.

Gooseberry Bushes on Ledges Above Pine Responsible for
Heavy Damage to Trees.

A new damage study plot of one-half acre in area was established in what is known as the McCormack lot near Keeseville, N. Y. This plot is of special interest in that most of the infection came from large wild gooseberry bushes on a ledge above the pine. It is a fairly even-aged stand, the trees averaging from twenty to twenty-two years of age and of exceptionally fine quality. The infection in this plot was somewhat unusual in that most of the cankers were in the main stems. This is explained by the fact that owing to the density of the stand the branches of the trees were comparatively short, so that the disease spread into the stems in a relatively short period of time.

There are 1,116 trees on the plot. Of these, 593 are badly suppressed and most of them are dead. Not considering the trees removed by shading, the mortality of the trees, due to blister rust, is 42 per cent. It is interesting to note in this connection that the gooseberry bushes were eradicated early in the summer of 1928, which protected the remaining healthy trees from becoming infected with the blister rust.

The gooseberry bushes were at such an elevation that the blister rust spores could easily spread into the tops of the trees and their continued presence would in time unquestionably have resulted in a very serious damage to this stand of white pine.

(Extract from the Eighteenth Annual Report of the New York State Conservation Department - 1928.)

INFECTION IN PINE PLANTATION IN JACKSON, N. H.

The condition of a white pine plantation set in the spring of 1914 in Jackson, N. H., is shown by following figures:

In 1926,	63 trees had stem infections
	83 " " branch "
	65 " were healthy
	211

The trees were planted in an old field near the Ellis river about three miles above the village of Jackson. A bed of skunk currants about one hundred feet long and ten feet wide bordered them on the east and more skunk currants mixed with gooseberry bushes helped to make the fate of the pines certain.

I was asked to examine the plantation and when I saw its condition I did not think it practical to eradicate and told the owner so.

This summer I will examine the plantation and compare my figures with those of 1926.

S. H. Boomer, N. H.

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BLISTER RUST INFECTION STUDY PLOTS IN NEW YORK

Early last fall Agent Nichols and myself were engaged in securing field data from blister rust infection study plots. (No doubt many of the other agents were also engaged in this work.) The object of this study was to actually show that eradication does control the spread of blister rust. Of course we all know that it does, but when the data is put on paper it is more convincing to the skeptical ones; it shows the effectiveness more clearly.

In Clinton and Essex Counties a total of 12 plots, usually 1 acre in size were laid out, six in each county, with two in a town, one that had been eradicated for at least 5 years and the other uneradicated. These plots were to be as near alike as possible, that is, topography, size and number of trees, density of growth, etc., It might seem to those who did not lay out any that it was very little trouble to go out, locate your plots, stake them out and go ahead to secure the necessary data. It is easy to lay them out, but to get comparable ones was a different proposition. The eradicated area would have too many trees and not enough old infections or vice-versa, but nevertheless we managed to secure some data that I think showed up very good. For example: In the town of AuSable, Clinton County, we laid out a .75 Acre plot where the Ribes on the area had been eradicated in 1923. On this plot we found many old infections, from 1909 up, but only one or two after 1923. Then we laid out another plot in the same town which was almost an exact duplicate of the first as to topography, number of trees, etc., but on which the Ribes had not been eradicated. On this plot we found many old infections, of course, but the feature I want to bring out is this, we found hundreds of small trees and seedlings that had very late infections and many of the small trees were dead, whereas on the other plot all reproduction after 1923 was healthy. I think

that this is a very good proof that Ribes eradication does suppress the spread of blister rust.

It seems that this kind of data is quite essential and we have been asked to secure some more this winter. It is much more difficult to get it now than it was last fall, due to the cold weather and snow, but regardless of the weather conditions I think we will be able to get in a few plots before the snow gets too deep.

H. W. Holcomb, N. Y.

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TO A PINE TREE

Stately creature! In your robe of green,
You stir my soul whene'er you're seen.
Your scent brings quiet to my tired mind,
Your peaceful music, my heart will ever bind.

Oh Pine Tree! I can never tell you
What dear thoughts you bring.
Your slender spills, like beckoning fingers wave,
Dear God, I give thee thanks - For this pine tree you gave.

Winnie Gray Curtis, Maine.

- - - - -

HEAVY INFECTION FOUND AT NEW DURHAM, N.H.

Mr. Stephen H. Boomer in a trip to New Durham, N. H., on February 13th, ran across a very heavy infection which he noted in his itinerary report. He writes, "I scouted the pine lot of Selectman W. (with him). Found what might amount to a 100% infection if time could have been taken to examine each tree. Some trees very badly infected."

Mr. Boomer sees the pine owners in the various towns, visits their pine lots, finds the extent of blister rust in the pine and gets the owners' attention by showing them the damage.

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LANTERN SLIDES AVAILABLE

Six sets of 4 slides, one slide for each of Mr. Detwiler's Figures in the Black Currant Circular (Miscellaneous Publication No. 27), are available for immediate distribution. Should the demand be greater than the supply additional ones will be ordered for field use. In ordering these, request Slides 3687 to 3690, inclusive.

AN INQUIRY CARD WHICH HAS BEEN USED TO ADVANTAGE IN NEW YORK

NAME _____ ADDRESS _____	
Town where planted _____	Direction to reach your white pine.
Town _____ County _____	
No. white pine planted _____	
Acres white pine owned _____	
Names of adjacent property owners.	

If property has changed hands give name and address of present owner.	

MASSACHUSETTS BLISTER RUST DISPLAY ATTRACTS ATTENTION
OF LARGEST TIMBER OWNER IN THE STATE

Mr. G. S. Doore, blister rust agent in Massachusetts, recently sent us several photographs of some Mass. blister rust displays. Among them was a picture of the blister rust display at Lake Wyola, Shutesbury, which attracted the attention of the largest timber owner in the State. Mr. Doore writes as follows concerning this display:

"Mr. X. of North Amherst said, 'Who put up that display of blister rust at Lake Wyola and where did you get the infected pine?' He was told that the pine was cut in Conway, Massachusetts. That was August 21st at 8 P. M., and I signed him up for eradication work. He owns 9000 acres, 2000 in pine, and is the largest private timber owner in the State."

RECHECKING DAMAGE STUDY PLOTS IN NEW YORK STATE

Pine Reproduction Lacking Where Ribes Were Present.

Early in the summer of 1925 a damage study plot was established in a stand of white pine on what is known as the old Whalen farm near Clintonville, Clinton county.

There were 950 trees on this study plot when it was established. At that time a conservative estimate of the number of trees doomed to die from blister rust was 475, or 50 per cent of the total number. When this plot was rechecked in the summer of 1928, it was found that 405 trees were dead, of which 337 had been killed by blister rust and 134 more were so badly diseased that they will die. The mortality from blister rust in this plot on the basis of the data obtained in 1928, will be 56 per cent. The estimate of loss in 1925 was conservative.

Since the currant and gooseberry bushes have been eradicated there will be 416 trees left on the plot. Of these, 259 are suppressed and 157 dominant. Of the 416, 105 are doomed to die because of shading. So in reality there will be left 311 trees. Nine hundred and fifty-five white pine trees per acre, fairly evenly distributed, and other conditions being equal, reasonably insures a good stand of timber, which, over a fifty-year period of rotation on a good site, such as the Whalen lot, should yield not less than 35,000 board feet of lumber. The data which has been accumulated in our damage studies on white-pine blister rust in the past six seasons, show conclusively that about 75 per cent of all the white pine trees which blister rust attacks are in the more thrifty and vigorous class. In the Whalen plot the remaining good trees are more or less scattered and without the competition of other trees removed by blister rust, will naturally make short, scrubby trees which will yield a very poor quality of lumber. As the result of the havoc of blister rust, the remaining trees on this plot will yield ultimately about 10,000 board feet of lumber of very inferior quality, as against a normal production of 35,000 board feet of lumber of good quality.

Two other study plots, one established in 1925, in the town of Peru, Clinton county, and the other laid out in 1924 near Horicon in Warren county, were rechecked. The majority of white pine trees in both of these plots are about nineteen to twenty-five years of age. The data obtained by re-studying these plots in 1928 show that the losses in board feet of lumber will at least equal if not exceed those mentioned for the Whalen lot.

Another significant fact in connection with these studies is the lack of young reproduction. There have been no heavy white pine seed years since 1919. It is not known whether there was any reproduction in any of the plots, except the one near Horicon. Here, in 1921 and 1922, there were hundreds of thousands of seedlings, but there remains today scarcely a single tree from the 1919 crop of seed. It is not assumed that the disappearance of these seedlings is due entirely to blister rust, but those which survived other destructive agencies have been killed by this disease. It is safe to assume that there was a goodly crop of seedlings in some of the other plots studied, as well as in many other stands of white pine, and that a large percentage of them were killed by blister rust.

Each year's study shows all the more conclusively that white pine cannot successfully establish itself where currant and gooseberry bushes and white-pine blister rust are present. The damage studies now in progress were begun primarily with the purpose of obtaining definite data on the question - Just how serious is blister rust? As these investigations progress facts such as set forth above are gradually accumulating, which should leave no doubt in the minds of foresters, white pine owners and others with forestry interests as to the seriousness of blister rust where not controlled. Such facts show that the prevention and control of this disease must be included in every properly balanced plan for the growing of white pine.

(Extract from the Eighteenth Annual Report of the New York State Conservation Department - 1928.)

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A WORD OF THANKS TO STATE LEADERS

A short while ago, I was requested to secure certain information from the several cooperating States for the use of the Joint Committee on Agriculture of the 1929 Massachusetts Legislature. In response to the request I immediately wrote to the State Leaders in the several cooperating States requesting the information desired. Within forty-eight hours I received detailed replies to my inquiry and had the material in the hands of the Committee. In addition, the Boston (Federal) office was able to furnish me immediately, certain important data bearing on the case in hand. For such service, I for one, am very grateful and wish to say further, that it is a real privilege to be a part of an organization where COOPERATION is not only a basic principle but in which it is practiced to the fullest extent - THANK YOU!

C. C. Perry, Mass.

WHITE PINE! ITS PAST! ITS PRESENT AND FUTURE WORTH*

This article, probably by L. E. Newman, the editor of the New Hampshire Forests, makes a plea for more and better white pine for the benefit of the future. The blister rust situation in New Hampshire is described.

***** There are 221 towns and cities containing sufficient pine to warrant its protection. Sixty-one have completed the initial examination of their woodlands; ninety-one have conducted control work two years or more; thirty-five but one year, and thirty-four have made no effort to prevent further spread of the rust. *****.

"During a recent re-valuation of our woodlands I noted that in pine lots, once heavily infected by the rust, but where currant and gooseberry bushes were destroyed, NO NEW INFECTION WAS FOUND. But in such lots on which no control work was performed. THE DISEASE IS ON THE INCREASE." (A N.H. Assessor).

The foregoing statement by this town official points out the method of control and indicates that the destruction of these bushes is effective. Is further proof required?

*Extract from New Hampshire Forests, Vol. VI, No. 1, March, 1929, pp.8-10.

The
OLD
FARMER'S
1929
ALMANAC
in its
137th ANNUAL EDITION

W A R N S O F R I B E S A N D B L I S T E R R U S T

17

JUNE hath 30 days.

[1929]

Tanned face of June, the nomad gypsy, laughs
Above her widespread wares, the while she tells
The farmers' fortunes in the fields, and quaffs
The water from the spider-peopled wells.

FRANCIS LEDWIDGE.

D. M.	D. W.	Aspects, Holidays, Heights of High Water, etc.	Farmer's Calendar.
1 Sa.		Nicomede. Tides {8.8	Cool
2 F		1st S. after T. ♂ H C. {8.9	
3 M.		Tides {9.1	
4 Tu.		♂ ♀ C. Tides {10.0	
5 W.		Tides {9.3	breezes.
6 Th.		Tides {11.1	
7 Fr.		♂ ♀ C. Tides {9.7	Much
8 Sa.		♂ in Aph. Tides {11.4	warmer,
9 F		2d S. af. T. ♂ ♀ C. Inf. {9.6	occasional
10 M.		Tides {11.2	sional
11 Tu.		St. Barnabas. ♂ ♂ C. {10.8	thunder
12 W.		♂ ♀ C. Tides {10.3	showers.
13 Th.		Tides {9.8	
14 Fr.		Tides {9.1	Fine
15 Sa.		Opening of Hague Conference, 1922. Tides {9.0	
16 F		3d S. af. Trin. Tides {8.7	
17 M.		Tides {8.5	growing
18 Tu.		♂ h C. Tides {8.4	weather.
19 W.		Tides {9.7	
20 Th.		Tides {8.4 [21st. ♂ Stat. ♂ h C.	
21 Fr.		☉ ent. ☉. SUMMER BEGINS. {8.3	Hot,
22 Sa.		♀ in Aph. Tides {9.7	
23 F		4th S. af. Trin. Tides {8.3	
24 M.		St. John, Baptist. Tides {9.6	prob-
25 Tu.		Tides {8.2	ably
26 W.		Tides {9.3	thunder
27 Th.		Boston and New York connected by telegraph, 1846. {9.2	
28 Fr.		♀ Gr. Hel. Tides {9.0	showers.
29 Sa.		St. Peter & St. Paul. ♀ Gr. Elong. West. {8.9	
30 F		5th S. af. Trin. ♂ H C. {8.8	

CURRENTS AND WHITE PINE BLISTER RUST

All currant and gooseberry bushes are dangerous plants in regions infested with the white-pine blister rust. This is a disease of foreign origin which is destructive to all of our American white (or five-leaved) pines.

The blister rust requires two distinctly different kinds of host plants for completing its life cycle. The spores that infect the pines are produced on the leaves of currant or gooseberry bushes and transmitted to the pines by the wind. In turn the currants and gooseberries become infected from the spores produced on the pines. While all species of currant and gooseberry plants take the disease to some extent, the European black currant is so susceptible that a single spot on one leaf may completely spread the disease to the entire plant as well as to other near-by plants of the same species. Thus the scattered wind-blown spores which may travel many miles and not establish the rust on other species of currants do quickly infect the European black and set up new centers of infection. For this reason the European black currant has been called the "nurse plant" of blister rust and should be destroyed in all sections where white pines are important forest crops.

VERMONT AGENTS CONDUCT A SURVEY FOR EUROPEAN BLACK CURRANTS

Mr. S. V. Holden started the work last fall in Windham County. This survey was carried on by visiting all gardens in every town covered that had not previously been visited by the agent in his mapping and general control work. The results of this survey are found in the following table:

Data on European Black Currants in Windham County, Vermont.

Name of Town	No. of Plantings	Total No. of Bushes Found and Destroyed	Remarks
Bellows Falls	1	10	
Brattleboro	2	20	
Brookline	1	3	
Dummerston	2	6	
Guilford	2	5	Bushes in abandoned farm gardens
Jamaica & Wards-			
boro	0	0	
Marlboro	1	22	
Newfane		14	
Putney		0	The George Aiken Nsy. had destroyed several hundred <u>nigrum</u> in the first years of the control program.
Rockingham	1	70	Bushes at Halliday Nsy. growing under wild conditions.
Townshend	0	0	
Vernon	1	6	
Westminister	6	32	8 bushes found on 3 abandoned farms. 10 bushes run wild from old Temple Nsy.

Mr. F. H. Rose reports that the survey for R. nigrum has been carried on and completed in Norwich, Hartford, Fairlee, and about half of Bradford and Woodstock. Sixteen bushes were found at three places.

Mr. W. E. Bradder reports that the R. nigrum survey has been completed in Rutland and Pittsford, and started in Brandon. Sixteen bushes have been found at seven places. In only two cases out of seven did the owner use the fruit. Last summer at Chittenden eight R. nigrum were found on an abandoned farm which were traced to a French Canadian family who may have brought them from Canada.

On the whole it seems that European black currants are not abundant in the Vermont towns which have been surveyed.

BLISTER RUST DISTRIBUTION SHOWN BY NEW MAP-SLIDE AND PHOTOGRAPH

A new slide, No. 3907, showing regions infected with white-pine blister rust, 1927-1928, is now available at the Washington Office. This slide shows by hachures, (most of the boys may know this as cross hatching), the distribution of blister rust in the United States and Canada as of December 31, 1927, and by solid black the areas in the United States where infections were found in 1928.

The same negative, No. 3907, which has been used for a slide, has been made up as a photograph 8 by 10 inches in size and also as an enlargement 16 by 21 inches. One enlargement has already been sent to each State leader and District leader. If the agents can use either slide, or 8 by 10 print or enlargement, or all three they should write the Washington Office.

The new counties in which blister rust was discovered in 1928 are as follows:

Idaho - Benewah, Boundary, Kootenai, Latah, Shoshone.

Michigan - Charlevoix, Cheboygan, Dickinson, Gladwin, Gogebic, Ionia, Keweenaw, Marquette, Menominee, Missaukee, Montcalm, Newaygo, Roscommon.

Montana - Lincoln.

Oregon - Benton, Lincoln, Marion, Polk, Wasco.

Washington-Chelan, Spokane.

Wisconsin - Florence, Waupaca.

RIBES PER ACRE IN NEW YORK

That there is considerable variation in the number of Ribes bushes found per acre can probably be more clearly indicated by quoting figures on minimum, maximum and average found per acre on the 85,454 acres of initial eradication that was covered this year in New York.

Ribes Found Per Acre.

Minimum, 1; maximum, 977; average, 204.

(Extract from the 18th Annual Report of the New York Conservation Department-1928)

It has been discovered that some of the timbers taken from the White House roof in 1927 when repairs were made were northern white pine. It was at first thought that all the wood was southern longleaf pine. .

WOOD- the only building material that grows

INTERESTING WORK WITH BOY SCOUTS AT RUTLAND, VERMONT

In cooperation with the local Boy Scout Council I have been helping the boys on the new requirements for their Forestry Merit badge, which now includes laying out and caring for a quarter-acre woodlot.

I recently took a group of ten of the older scouts to Pine Hill, which belongs to the City of Rutland, and helped them in selecting and laying out their plots. The plots were located in a stand of sapling pine partly suppressed by larger hardwoods. The boys marked the boundaries and corners of their plots, and made a start on the removal of the hardwoods. Blister rust infection was then pointed out and the means of control explained. As soon as the leaves are out the boys will form a crew and do the necessary eradication work, under the direction of a State foreman.

Pine Hill was at one time locally famous for its growth of pine but repeated fires have destroyed the reproduction until there remains today only the small area where the plots are located. These plots are to be permanent for the study and observation of the troops to which the boy belong.

March 6.

W. E. Bradder, Vermont.

MASTER OF THE R. I. STATE GRANGE BELIEVES WHITE PINE WILL BE
THE LEADING TREE IN REFORESTATION WORK IN RHODE ISLAND.

White pine appears to be the leading tree species that will be planted in Rhode Island in the future. Mr. J. Curtis Hopkins, Master of the State Grange brought out this point in a recent conversation with me. This has been true in the past but due to the lack of care combined with improper planting, the white pine plantations seem to have had more than their share of white pine weevil. Other trees have been considered as substitutes for white pine, especially the red pine which makes good growth here on gravelly or sandy soils. To date the red pine plantations do not reproduce themselves except in the open spaces. This failure to reproduce itself does not appear to favor this species as a pure stand proposition except where soil conditions do not allow white pine planting. Besides pure white pine planting, mixed planting of white pine with red pine, and white pine planting in poorly stocked hardwood stands promise to be most important in reforestation work.

The white pine blister rust does not discourage white pine planting in Rhode Island since it has been demonstrated that effective control can be easily accomplished here. Both growing and marketing conditions favor the planting of white pine and the white-pine weevil scare is not so prevalent as we have recently thought. Little attempt has been made to control the weevil here and thus when we experiment with white pine under mixed or close planting conditions and attempt to practice forest management on these stands, we may find that the white pine weevil can be controlled effectively and prevented from doing great commercial damage. I find from contacts made with interested farmers that they desire to give the white pine a chance.

A. W. Hurford, Rhode Island.

PROPER USE OF RIBES PICK

Frequently, the commonplace matters are entirely overlooked. Such appears to be the case regarding written instructions on the proper use of a Ribes pick. I have, therefore, asked Mr. Herman J. Ninman, of Wisconsin, designer of the so-called "Farm Pick", to give us his views on this subject. The following statement was prepared by Mr. Ninman.

E. C. F.

SOME SUGGESTIONS CONCERNING THE USE OF THE "FARM PICK" FOR DESTROYING CURRANTS AND GOOSEBERRIES

Suggestions as to the proper use of a Ribes pick are difficult to give unless one sees the mistakes the individual makes in practice. Even then only the rough mistakes can be pointed out. It is much the same in using the farm pick as in using an axe - no amount of instructions can make a good woodchopper. Nor would instructions without practice make anyone really efficient with a pitchfork. The mistakes a new hand can make with either the axe, the pitchfork, or the farm pick are numerous and hard to describe, and no two persons make mistakes in just the same way.

The shape or form of the farm pick was carefully worked out, and based upon scientific principles to combine strength, leverage and grip under the roots or crown for the purpose of dislodging bushes of all sizes. The rounded prongs and blunt points of the prongs prevent cutting the roots and crown much more than sharp-edged tools and therefore remove more of the root stems than most tools.

A few statements fundamental to the use of the farm pick may be of value to the beginner:- The double prong is used to remove all bushes, (where there are no obstacles to interfere) up to at least 50 feet of live stem, without chopping around the bush in any manner; the double prongs are merely chopped under the crown, the handle being held at an angle to plumb line while making the stroke so as to avoid scratching the hands on the bush; the handle is then pushed nearer the plum line and leverage is applied, jerking being avoided so as to avoid breaking the handle. A steady pull will give time for large roots to become loosened from the soil, whereas a jerk will sometimes break large roots which would otherwise come out with the crown. The pull does not need to be slow, only the jerk should be avoided. In case of small bushes leverage should seldom be used, because the straight pull is faster; only when the workman finds that there is a large root system under the comparatively small top should leverage be applied. For bushes less than approximately 50 feet of live stem the single prong should be used only where stones, the roots of large trees, or other obstacles prevent the double prongs from penetrating the ground; or when the roots of the Ribes bush are entwined with the roots of other bushes so that the pull required is so great that the individual prong of the double prongs may be bent out of shape. When bushes with more than 50 feet of live stem stand in sod, use the single prong to tear up the sod, at a distance of about 15 inches from the canes, for a distance of approximately one-third around the bush, and chop deep so as to break the large roots on that side; then on the opposite side chop the double prongs under the crown and apply leverage. In case of very large bushes, use the single prong to break up the crown into parts, and also remove most of the parts. Where extremely large bushes are numerous, as in case of a yard planted with European black currants, other

tools may be more useful than the farm pick, but the farm pick is strong enough to remove an exceptional bush even if very large, and usually no extra tool needs to be carried by the crew to remove larger bushes. In case of very large bushes it is advisable for two men to work on the same bush and to use the combined leverage.

The farm pick was slightly remodeled during the past year to make it a little heavier but much stronger. The strength of the double prongs was especially increased.

H. J. Ninman.

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FORESTRY ALMANAC AVAILABLE

The American Tree Association has just published an excellent book entitled, "Forestry Almanac, 1929 Edition", which I am sure could be used to great advantage by our State Leaders and field supervisors. Among the many topics which are dealt with in this book are the following: United States Forest Service; Other Government Forestry Activities; State Extension Foresters; National Forestry Legislation; Demonstration Forests; Forestry in Varied Fields; Forestry Associations; State Associations; State Parks; Forestry Education; Forestry in Foreign Countries; and Books on Forestry.

This Almanac can be secured from the American Tree Association, Washington, D. C., for \$1.00.

R. G. P.

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MILWAUKEE TO BE HEADQUARTERS OF
LAKE STATES FOREST DISTRICT

Establishment of headquarters for the new Lake States National Forest District at Milwaukee, Wisconsin, was approved by Secretary of Agriculture Jardine, February 16, 1929.

Since the first of the year, when the Lake States District was created, temporary headquarters have been maintained at Madison, Wisconsin. E. W. Tinker, district forester in charge, plans to move the offices of the new district to the Appraiser's Stores Building in Milwaukee as soon as arrangements can be made. Permanent quarters will be established in the new Federal Building when it is ready for occupancy. The choice of Milwaukee as a location for district headquarters followed a study of the accessibility of a number of cities to National Forest units, and other administrative factors.

1928 INSPECTION OF EARLY MINNESOTA INFECTION AREAS

Mr. S. B. Andrews made a survey of the early infection centers in Minnesota and the report for three of these centers surveyed between August 6-11 is given below:

- Pine Hollow Area - Three miles south of Osceola Bridge on St. Croix River. One of the first large infections on Ribes in Minnesota was reported in this area in September, 1916. Early the following spring (1917), in an attempt to completely wipe out the blister rust in the State, all small pines were cut and the Ribes eradicated from this general vicinity. No rust was found here in 1925 or in 1927. The Ribes have returned in great abundance.
- a. History:
- b. Survey, 1928: As in 1925 and 1927 no rust was found here this year. Many Ribes bushes have attained fair size.
- c. Conclusions: The rigid control measures practiced in 1917 have successfully rid this area of any infection. With the return of the Ribes the area is again subject to infection that may be fatal to the stand if it re-occurs. The area should be protected from such possibility.
- Boom Creek - Across the St. Croix River from Osceola, Wisconsin. Infection was first reported in this area in June, 1917. The diseased pines were removed from the stand and all the Ribes were eradicated. No infection was found either on pine or Ribes in the 1925 survey. In 1927 rust was found on the Ribes in this area to the extent of 10%. Much young pine was found on the area but no infected ones.
- a. History:
- b. Survey, 1928: This area was not scouted in 1928.
- c. Conclusions: It was assumed in 1927 that, with the amount of infected Ribes, the young pine would become infected. This area should be observed. To preserve a good stand of reproduction, eradication should be practiced.
- Interstate Park Area - Taylor's Falls, Minnesota.
- a. History: This area is a State park of rocky bluffs covered chiefly with white and Norway pines and hardwoods. Several eradication programs have been carried out, and the last of these was completed in 1920. The survey of 1925 showed no evidence of rust on pine or Ribes. The latter host was reported as returning to the area at a moderate rate. In 1927 no infection was found on either pine or Ribes, but considerable amount of Ribes was reported as occurring within the limits of the park.
- b. Survey, 1928: No infection was found either on pine or Ribes. Ribes restocking in the park is quite general, but probably there are better conditions for restocking on the Wisconsin side.
- c. Conclusions: A series of eradication programs has kept this area free from infection. As infections have existed and are now existing in proximity to this area, the effectiveness of the eradication seems apparent. The continuance of Ribes growth in the park should be discouraged if this area is to remain non-infected.

TAKE STOCK OF YOUR LANTERN SLIDE COLLECTIONS

There has recently been received in Washington a number of slides which suffered an accident. Fortunate accident! for the broken slides were sent to Washington for replacement. These were examined and among them was found a slide, #2299, showing quarantine lines long since obsolete. This brought it pointedly to our attention that some slides which are used by the agents have a time limit on them; that is they are obsolete within one or two years after their manufacture and should be replaced by others more up to date. I refer particularly to such slides showing the latest spread of blister rust, and to this quarantine map.

I believe it advisable to look over your set of slides at least once a year and to figure on replacing some of them which are obsolete and adding to the set others on particular phases of the blister rust and its control which seems to be needed.

If we know your needs we will try to fill them.

R. G. P.

SOME BLISTER RUST AXIOMS

Mr. C. C. Perry, State Leader in blister rust control work in Massachusetts, calls attention to some blister rust axioms which were used successfully in the blister rust display at the Springfield Exposition last year. If repetition has any value, and all educators believe it has great value, it will pay to keep these axioms in mind and also before the eyes of the public. They have merit in being short, and to the point, and they cover the subject. The four axioms are again given in this number.

BLISTER RUST IS A DISEASE OF CURRANT AND GOOSEBERRY BUSHES AND WHITE PINES.

CURRANT AND GOOSEBERRY BUSHES OF ALL KINDS SPREAD BLISTER RUST TO WHITE PINES.

THE BLISTER RUST DOES NOT SPREAD FROM PINE TO PINE.

UPROOT CURRANT AND GOOSEBERRY BUSHES TO PROTECT WHITE PINES.

The Washington Office has received a theater program from the Pastime Theater, Tilton, N. H., which shows one of our blister rust films, "The Pines", receiving some reflected glory by being shown on the same evening with the film, "Out of the Ruins" starring Richard Barthelmess and Marion Nixon.

EXTRACTS FROM A RADIO TALK BY E. C. FILLER

(Mr. E. C. Filler in Charge of the Eastern District with headquarters at Boston, Massachusetts, in the Appraisers Stores Building, broadcasted a talk on the White Pine and Blister Rust over Station WBZA of Boston on Feb. 19, 1929.)

White pine is the principal forest tree of New England. Stands of this species occupy 6,862,000 acres, which is over 26% of its entire forest area. About two-thirds of this pine acreage is owned by farmers. The pine woodlot furnishes a ready source of income to the farmer from non-agricultural land, and supplies profitable employment for men and teams at odd times during the winter months. Many pine woodlots have paid off farm mortgages and educated the children. A woodlot owner is entitled to adequate financial returns from his forest area, provided it is given reasonable care. One important protective measure is to make sure blister rust is not stealing away the value of the white pine crop. ****.

Over extensive unprotected areas in New England and New York, from 1 to 20 percent of the pines are infected; and in many local pine tracts, where the disease has been present for several years, from 50 to 100 percent of the trees are dead or dying. However, on protected areas, control of the disease has been established. The effectiveness of control in preventing pine infection was recently demonstrated in many towns by examining the white pines in areas cleared of currant and gooseberry bushes during the period 1918-1924, and comparing infection conditions with those existing in similar, but unprotected tracts in the same towns. The study shows that since eradication of currant and gooseberry bushes, 15 times as much pine infection has occurred in the unprotected areas, as on the tracts cleared of such bushes. In other words, 93.5 percent of all the pine infection, originating since the eradication work, occurred in the unprotected areas. ****.

Since 1922, the Federal Government, and the States concerned, have been engaged in a cooperative campaign to protect the white pines from blister rust. Special blister rust control agents have been assigned districts in which to aid towns and pine owners in determining the condition of their pines and in applying control measures. As a result of this program in New England and New York, over 5,800,000 acres of pine land have been cleared of over 53 million wild currant and gooseberry bushes. The excellent public support and participation in this work is evidenced by the fact that over 1000 town appropriations have been made for blister rust control, and over 25,000 pine owners have cooperated by eradicating the wild and cultivated currant and gooseberry bushes from their properties. ****.

The cost of control work varies from a few cents to a dollar or more per acre, depending upon the number of such bushes, density of undergrowth, and topography. In the Eastern States, the cost has averaged only 18 cents per acre. ****.

Note:- According to reports received from about 10 persons the talk went across O. K.

BLISTER RUST REMINDER CARDS IN USE IN MASSACHUSETTS

For the purpose of fostering the continued interest of cooperating land owners in Massachusetts in the protection of white pine, a so-called REMINDER CARD was devised in the spring of 1927. This card when folded is a three-winged affair; one wing is a franked card which contains the following message urging continued interest and suggesting a periodic examination for Ribes:

BLISTER RUST REMINDER CARD

When the currant and gooseberry bushes were destroyed upon your property to protect the white pine from blister rust, attention was called to the need for re-examining the land for any missed bushes, sprouts, or new bushes grown from seed. This card is to remind you that early spring is the best time to find these plants. If allowed to remain, these bushes will continue to develop and spread blister rust to your pine.

You are, therefore, urged to go over your land this spring and uproot any remaining currant or gooseberry bushes. This action will increase the effectiveness of the previous control work and give additional protection to the trees.

The Department of Agriculture is interested in preserving records of all such cooperative work and it will be greatly appreciated, if you will fill out and mail the reply card when you have completed this work on your land. No postage is required on the reply card.

.
Blister Rust Control Agent.

The middle wing or section is a franked return card with the following provision for the owner to record the number of Ribes found on the acreage examined:

Blister Rust Control Agent:

In response to your reminder card, this will notify you that I have made a re-examination of about acres of land in the town of , and have destroyed..... wild currant and gooseberry bushes.

Name

Address.....

Date.....

The third wing is blank and simply folds over the two other sections for purpose of transit thru the mail.

In 1927, these cards were sent out to a few cooperators in one or two districts in the State in an experimental way. In the spring of 1928, however, they were sent out in all the districts in the State. In all, 1,622 cards were

mailed to previous cooperators. In response to these cards 166 owners or approximately 10%, returned the reply-card in notification that they had made a reexamination of their holdings. From the mere figures in the case, it would not appear that the project really accomplished its purpose. In all districts, however, the agents have reported that during the field season whenever they have happened to meet former cooperators, many have said that they received the reminder, actually followed the suggestions, but failed for one reason or another, to make a return.

In this connection it is of interest to note that in one district (Worcester-North) several owners informed the agent (Clave) that they had received the cards too late in the spring and recommended that the reminders should be mailed earlier so that owners could do the work along with their regular spring "chores" such as examining and repairing their fences.

As evidence of the fact that the cards really do perform a service, the following quotations from one or two of the cards returned to Agent Roop are of particular interest.

One cooperator, after recording the fact that he re-examined 70 acres of land and destroyed several hundred Ribes, adds this note: "We would appreciate another inspection of this territory by your Department."

Another owner reports finding 20 wild Ribes on his 30 acre lot and adds, "I have lost no pines since we first pulled the currant bushes."

From the town of Topsfield came the interesting postscript: "The number given covers 5 years since control agent's visit and represents yearly going over and occasional occurrence of bushes." There's a real continuing cooperator for you!

Another cooperator wishes us to know that he is still in the land of the living and returns the card with this notation "Sold my farm four years ago." Unfortunately he did not advise us as to the name of the new owner, but this can be obtained by further correspondence.

From the town of Hamilton, a card indicates 100% eradication by the comment, "I can find no more now".

Friction in the neighborhood is suspected in the informing reply from one "detective" to the effect that "Neighbors across the street have set out a lot of currant bushes".

An out-of-town owner sends this reply: "My land is scattered. I have asked my agent to go over it and destroy all above bushes. In August, I will review the work myself".

And so it goes. These replies are but a few and from but one district. Equally interesting responses could be reported from other districts throughout the State. In other words, it is the feeling that the card has its place in the general plan of control, and its use will be continued at least for one more season. When the present supply of cards is exhausted, it may be wise to simply use the one card and do away with the reply card.

FORESTRY ON A FARM WOODLOT *

Mr. W. W. Thomas of Tuftonboro, N. H., has an interesting example of a well-kept woodlot. The lot consists of about forty acres of white pine most of which has had the gray birch and other hardwood removed and the pine thinned and pruned.

Mr. Thomas remembers when a section of the stand was old growth hardwood with white pine coming up underneath. The hardwood was cut by his father and the pine grew to maturity and has been cut. The area has seeded itself and is coming up to pine again.

Some old growth hardwood trees have been girdled and allowed to die rather than fall them on the young pines underneath. The hardwood and thin-nings have been used for firewood and some of the wood has been given away to those who would cut the marked trees and be careful of the young growth.

When the pine has matured it is cut and hauled to the lake to be towed to the mill in the spring. This affords the best kind of an opportunity to market the crop as it matures. There is much more incentive to practice forestry through selective cutting where large or small quantities of lumber may be disposed of.

All currant and gooseberry bushes were removed several years ago and the lot is practically free from blister rust.

S. H. Boomer, N. H.

* Extracts from New Hampshire Forests, Vol. VI, No. 1, March, 1929, p. 5.

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WINDOW DISPLAYS, AN EFFECTIVE EDUCATIONAL AGENCY

During the last field season, the beneficial effects of window demonstration were constantly in evidence. Many owners tell us that they saw one of our displays during the previous winter and it is very apparent that the displays told much of the story which it is usually necessary to tell on the occasion of an initial interview. In other words, these displays enlist the interest of the owner before the agent interviews him. The displays not only attract the attention of the owner, but they excite his interest and often-times to the point of "desire" to cooperate and protect his pines.

The window demonstrations are always "advertised" by the insertion of news items in the local papers. No difficulty is experienced in obtaining the cooperation of the store owners; in fact, it is often necessary to use a good deal of diplomacy in the selection of the store to avoid criticism for partiality.

This winter, a miniature frame is being used for the purpose of these store-window demonstrations. These frames are modelled after panels used for roadside exhibits in Massachusetts, a sketch of which appeared in the January number of the "News". These have the advantage of being neat, easily moved, and the specimens can be easily replaced. This is one aid to educational work that I cannot do without.

E. M. Brockway, Mass.

CULTIVATED BLACK CURRANTS VERSUS WHITE PINE IN WESTCHESTER COUNTY, NEW YORK.

The results of a survey of cultivated black currants, R. nigrum L., made in Westchester County, New York, last season, emphasizes the menace of this species to the growing of white pine. Because of the fact that blister rust spores produced on these currants may infect white pines within a radius of one mile or more, even a comparatively few bushes distributed promiscuously about a township might endanger a large proportion of the pine in that township. This point is demonstrated forcefully by the results of the survey in the township of Bedford.

The township of Bedford, located in the northern part of Westchester County, includes many large and beautiful estates. According to records from the State Conservation Department, over 245,000 white pine trees grown in the State nurseries have been set out in 90 plantations. In addition, the City of New York has planted several miles of shore line to white pine on its Cross River Reservoir. There have also been planted many thousands of white pine trees obtained from private nurseries of which we have no complete records. There is no doubt but that a good many dollars have been invested in white pine plantations in the township of Bedford, and that the present esthetic value of these trees is very high.

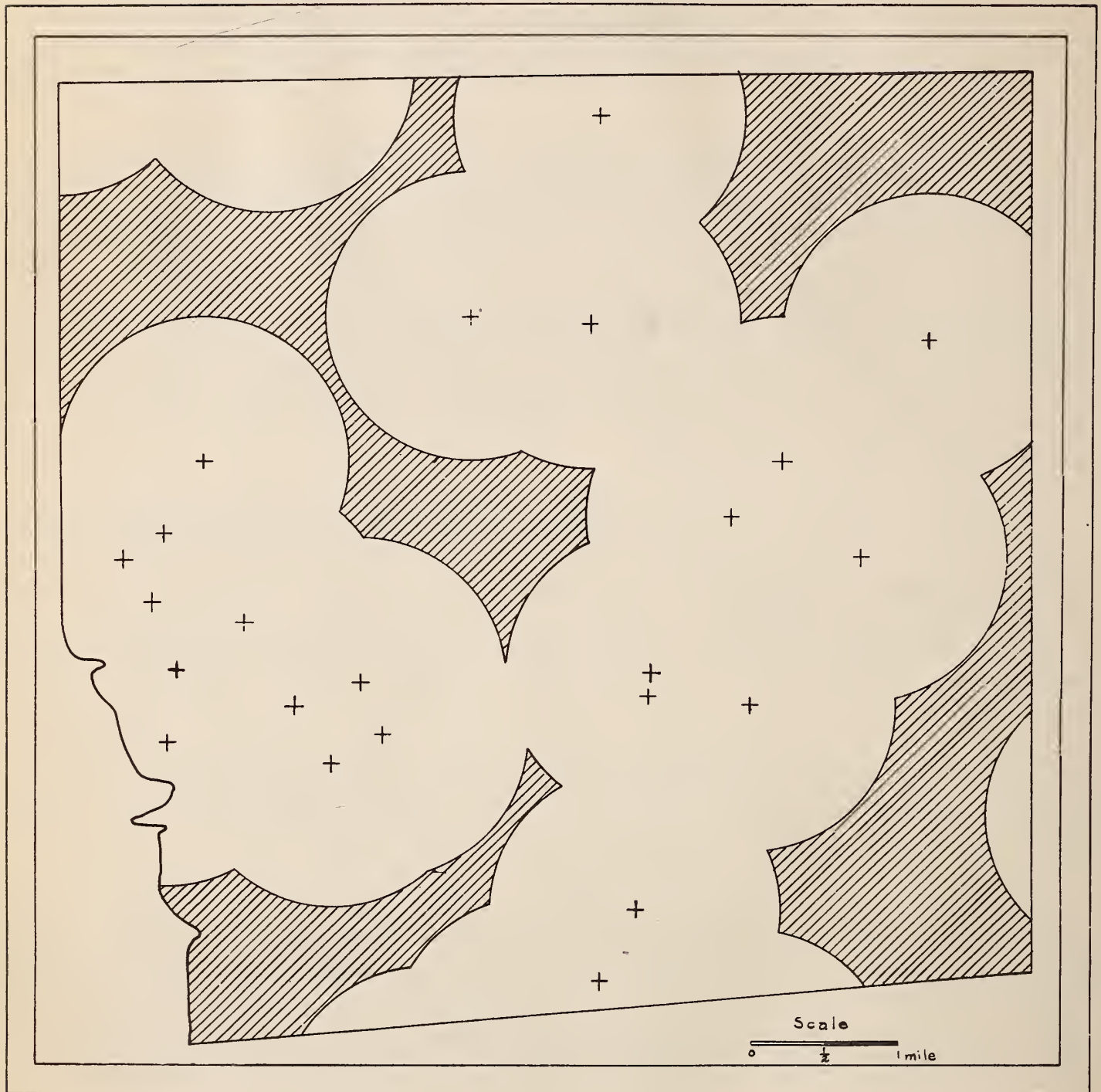
In this township, 163 cultivated black currants were located and destroyed during the past season. These were found in 23 separate locations as shown on the accompanying map. Cultivated black currants were also located in adjoining townships in eight locations within one mile of the Bedford town line. The area within one mile radius of one or more of these cultivated black currant plantings, and hence well within their infecting range, is outlined on the accompanying map. This unshaded portion of the map represents 76% of the 26,573 acres in the township. In this township, therefore, the white pine being grown on 20,195 acres or 76% of the total area of the township, was exposed to blister rust infection from a relatively small number of cultivated black currants situated in but 31 locations!

Customary local control methods, consisting of the removal of *Ribes* of all species from the plantations and from a protective zone 900 feet wide around the plantations might remove an occasional planting of cultivated black currants, but would not protect the planted pine from the more distant groups of these bushes. Complete protection of these white pine plantations necessitates the 100% removal of cultivated black currants in the township.

Cultivated black currant conditions in the township of Bedford are representative of conditions in many other townships in the State. In the township of Greenburg, over 1,400 cultivated black currants were removed. A similar map of their locations in this township would show that the total area was within the zone of disease spread from these bushes. These examples illustrate the need for the complete extermination of the cultivated black currant in white-pine regions as a general control measure.

H. G. Strait, N.Y.

CHART OF THE TOWN OF BEDFORD, N. Y.
SHOWING THE LOCATION OF CULTIVATED BLACK CURRANTS
(R. NIGRUM) AND THE
AREA WITHIN ONE MILE RADIUS OF THESE BUSHES



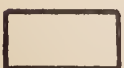
LEGEND



Area (24%) more than one mile distant from Ribes nigrum.



Location of Ribes nigrum plants in Bedford.



Area (76%) within one mile radius of Ribes nigrum locations.

ARE SQUIRRELS ENEMIES OR FRIENDS OF THE WHITE PINE?

Mr. W. O. Frost, State leader of Blister Rust Control in Maine, writing under date of March 4th, cites some interesting observations concerning the above question.

"This morning we received from the Fish & Game Office three badly gnawed sections of a pine. The story is so good we are going to pass it along. The specimens were tagged and read as follows:

'This is a portion of a pine tree girdled by flying squirrels, showing injury done within a few weeks and also injury done in 1927 and 1928. This tree showed a growth of 14 feet in height in 7 years previous to being girdled. This tree was cut February 25, 1929, and is one of many killed or ruined by the squirrels. The bark was eaten from this pine by flying squirrels. The tree was 9 inches through at the base and 26½ feet tall. It was 11 feet from the ground to the girdled portion. One of the squirrels was caught and killed while gnawing the bark. There are dozens of trees in this grove of pines that have been killed or ruined by these squirrels. The tree was cut on the farm of Mr. X. Brunswick, Maine.

"No doubt if Mr. X had known that this squirrel was doing a great good by destroying millions of future blister rust spores he would have hesitated before killing it, and would probably have said, 'Go to it, the more blister rusted bark you chew up, the better.'

"Has anybody else evidence of flying squirrels gnawings?"

TRAVEL REGULATIONS

Paragraph 20 of the Standardized Travel Regulations require that transportation requests be used for fares in excess of one dollar. The alternative is to use scrip. The intent of this regulation is to preclude the practice of paying cash for fares in excess of one dollar and claiming reimbursement therefor. Accordingly, the Comptroller General has ruled that credit will not be allowed for any payments as reimbursement for cash fares in excess of one dollar paid in the connection with travel performed, unless a clear statement is submitted showing why transportation requests or scrip could not have been used.

Mr. A. W. Hurford, State Leader in blister rust control work in Rhode Island, recently wrote a thousand word article on the status of forestry in Rhode Island, for the Rhode Island Department of Agriculture. This article will be used in a large book which the commercial and industrial firms of the State are putting out entitled, "The Book of Rhode Island".

A TRIP TO TONGUE MOUNTAIN, N.Y.

Recently I learned of a man whose home at present is in the vicinity of Kansas City. This gentleman covered the State of Vermont with the idea of buying a farm. At the completion of this trip, he was asked if he had found one to his liking. He replied, after a few puffs on a cigar, that he had not seen any so far in the State except a few which were standing on edge and he was afraid of falling off.

Within the past two weeks, agent Woodward and myself have spent several days scouting on Tongue Mountain, township of Bolton, trying to determine the amount of white pine on this tract of land worth protecting from blister rust. We found a few thousand acres, however, that to our judgement should be protected.

We also found acre after acre of land that made me feel the same as the Kansas City man about Vermont Farms. They were standing on edge, and believe me, one might be wise to be afraid of falling off of some of these ledges.

And say, speaking about edges, on some of these trips on Tongue Mountain I felt as though if I had had an "edge" on myself, it wouldn't have hurt me any. But money not being too plentiful and the Irishman's shanties being too far apart, we kept ourselves as "level" as possible.

There was approximately two feet of snow on the mountain; of course we used snowshoes. They worked very nicely except a couple of days when it was thawing. And Oh boy! Maybe it wasn't "sport" then to draw nearly 200 lbs. of avoirdupois up some of these inclines. And it appears to me that surely Henry Ford's statement about nobody "Working" and getting "Het up" hasn't come to pass, so far. However, a good time was enjoyed by all, and believe me, the exercise one gets from this sort of thing is better than taking it from the radio in the morning, or even riding in the new "Ford". Another point that helped our lunch to digest better and which pleased us, was the fact that the numerous rattlesnakes that inhabit that section wouldn't bother us at this time of year.

N. H. Harpp, New York.

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WHITE PINE (PODOCARPUS DACRYDIOIDES)

It is with interest that I recently saw the title of an article in the Review of Applied Mycology, "Prevention of Sap Stain in White Pine". However, on looking into the article I found to my surprise that this New Zealand article dealt not with strobis or monticola, but with an entirely different genus and species, Podocarpus dacrydioides.

Moral - Not all white pines are white pines, that is, five-needled pines.

The Podocarpaceae according to Bailey's Standard Cyclopedia of Horticulture, are evergreen trees. They belong to the family, Taxaceae, the same family to which our common yew belongs, and are confined chiefly to tropical and subtropical mountains. They are but rarely cultivated in this country and are only adapted for the southern States and California, except P. alpina which is the hardiest and may probably thrive as far north as Philadelphia or even further.

EVALUATION OF CULTIVATED RIBES SUSTAINED BY
MASSACHUSETTS ARBITRATION BOARD.

For the first time since 1918, a Massachusetts property owner has taken advantage of the provision of the State law which permits an owner to appeal an award made in reimbursement for cultivated Ribes removed to prevent the further spread of the white-pine blister rust. This appeal was heard on January 21 before the Arbitration Board provided by the statutes and consisting of the Commissioner of Agriculture, the State Forester, and an Assistant Attorney-General. At the hearing, State Leader Perry represented the blister rust organization, in the temporary absence of Mr. Allen, the Director of the Division of Plant Pest Control, named in the law as the responsible State official.

In defending the schedule of values established for the settlement of Ribes claims in Massachusetts, Mr. Perry prepared a detailed brief in which he contended in part as follows:

1. "The basis for the award is a schedule of values established by the Department on a similar scale adopted by the New York State authorities. This latter scale was arrived at after consultation with a large number of commercial growers who make a business of the production of currant and gooseberry fruit. The scale places the value of 50¢ per bush on 'Fruiting plants four years or older in good state of cultivation'.

2. "In the determination of the value of any producing agent, it is essential to determine not only the gross return but all the costs involved in securing that gross return and then arrive at the net profit. The costs involved in raising currants are a considerable item. These costs include interest on the initial cost of the plants plus the cost of planting; annual costs, such as cost of cultivation, pruning, and spraying; marketing costs including cost of picking, boxing, crating, and actual delivery to market; and finally an annual depreciation charge, for the reason that the average life of a plantation is fifteen years with twelve producing years and at the end of that time the investment is non-existent.

"If all these items of cost are considered, and the average market prices are taken into consideration, it does not appear that there would be an appreciable net return. Certainly not more than a few cent per bush per year.

3. "On the basis of replacement values, the amount awarded is ample to replace the plants with other stock such as raspberry, which over a period of years, would give a continuing income, greater than the claimant would have received from the currant bushes during the remainder of their normal life. Of course, it is appreciated that in the opinion of the housewife, currant jelly is the foremost delicacy of the sort, but raspberry jam is a good substitute.

4. "Some evidence of the adequacy of the Massachusetts schedule of values is to be found in the record of control work performed in the State during the present program of control; that is to say, from 1922-1928, inclusive. During that period of seven years the Department successfully secured the removal of approximately 189,000 cultivated Ribes. These bushes have not been removed without occasional serious contention and objection on the part of the owner. However, they were removed from over 9,000 properties scattered in various sections of the State, and yet, of all the owners, only 250 (less than 3%) have submitted claims for compensation.

"These claims have been settled at an average cost of 35¢ a plant. Not a single claimant has received more than 50¢ per bush or seen fit to make an appeal of the award offered.

5. "Responses to inquiry made in the other cooperating States with regard to the practice of compensation for cultivated Ribes, indicate that relatively few claims are paid and that, in general at least, 50¢ is the maximum price awarded."

The final contention made was that "In fairness to the claimants who have already accepted awards made in accordance with the Massachusetts schedule of values, and with particular regard for the thousands of property owners who have refrained from submitting claims, - the award in this particular case should be approved."

On February 11, the three members of the Arbitration Board concurred in a decision sustaining the contentions of the Director and approving the amount offered (50¢ per bush) to the claimant. AWARD SUSTAINED.

C. C. Perry, Mass.

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ERADICATION WORK EXTENDED IN 1924 TO ULSTER AND
RENSSELAER COUNTIES, N. Y.

Initial eradication has been extended this year to Ulster and Rensselaer counties. In previous years little or no eradication work was done in these counties. In both counties white pine areas are comparatively small and rather widely scattered. A belief was entertained that blister rust infection on white pines was not present, at least to any great extent, in either one of these counties. It was found, however, shortly after the work got under way that in both a considerable amount of infection on valuable young white pine stands was present. In Ulster County, the white pine areas are owned, to a great extent, by non-residents; and a considerable delay was experienced in getting the eradication work started until the cooperators returned there for the summer months. In Rensselaer County the eradication problem was more or less new to the white pine owners and therefore a considerable amount of interview work was necessary to convince them of the necessity, or importance, of eradication work. Thus, not as much progress was made in either county as our initial plan contemplated.

AMONG OURSELVES

Mr. Dellmont R. Payne, Agent at Spokane, resigned February 28th.

Mr. George M. Whiting's appointment as collaborator in the Western Office was terminated February 28th.

Mrs. Coral J. Photis, Washington Office, was on a vacation from Feb. 23rd to March 6th.

The resignation of Mrs. Esther Buchman, effective March 20th, has been received. Mrs. Buchman is an agent at Sacramento, California.

The News Letter of the New York State College of Forestry at Syracuse University, in its February number, shows a good photograph of Mr. James D. Kennedy, who was engaged in blister rust control work in New York from July 1923, to Dec. 31, 1928, first as an agent, and later as assistant State leader. Mr. Kennedy is now attached to the New York State College of Forestry at Syracuse University in the Extension Department.

Dr. J. F. Martin left Washington February 22 for a field trip of about ten days to field stations in Connecticut and Massachusetts.

In the Agricultural bowling sweepstakes held the past month, Palmer of the Blister Rust Office took fourth money with a score of 1705 for the fifteen games.

TELEGRAMS RESERVING HOTEL ACCOMODATIONS

The Acting Director of Personnel and Business Administration calls attention to the lack of observance on the part of some department employees to Paragraph 57 of the Standardized Government Travel Regulations which prescribe that telegrams at government rates reserving hotel accommodations shall be paid for in cash and the charges included in subsistence expense for initial date of the period for which accommodations are occupied. Strict compliance to this regulation is requested.

P U B L I C A T I O N S

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Boomer, S. H. Forestry on A Farm Woodlot. New Hampshire Forests, Vol. VI, No. 1, March, 1929, p. 5.

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BLISTER RUST NEWS



April, 1929.

Volume XIII

Number 4.

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
Office of Blister Rust Control



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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister Rust Control
and the Cooperating States.

VOL. 13. No. 4.

April, 1929.

NEW HAMPSHIRE AMENDS STATE BLISTER RUST LAW TO PROVIDE FOR
TOWN COOPERATION IN CONTROL WORK

House Bill No. 335, which is an act relating to white-pine blister rust, was signed by the Governor of New Hampshire on March 13, 1929. This act is as follows:

"Be it enacted by the Senate and House of Representatives
in General Court convened:

"1. Emergency Measures. Amend chapter 195 of the Public Laws by adding after section 15 thereof the following new section: 16. Order of Governor and Council. When in the opinion of the State forester and the commissioner of agriculture an emergency exists creating the necessity for the destruction of currant and gooseberry bushes in any town, the governor and council may order such town to carry out, under the direction of the state forester, the control measures specified by him. If such order is not complied with, the state forester, or his authorized agents, may remove or destroy any currant and gooseberry bushes within such town and charge the expenses to the town; provided, however, that no town shall be required to expend more than four hundred dollars in any one year for such control measures.

"2. Take Effect. This act shall take effect upon its passage."

NEW YORK AGENTS SPEND PROFITABLE WINTER SEASON

The question of profitable employment for the blister rust agents during the winter months is a subject that often comes up for consideration. It can, however, without hesitancy be stated that we found no cause to worry about important work for the New York blister rust agents during the winter that, according to present indications, will now soon be past history. With blister rust damage studies, woodland type mapping, transfer of type data to office maps, tabulating addresses of white pine planters, preparing special card records of white pine plantation work already covered, also that remaining to be done, circular letters to white pine owners, about two thousand of which were mailed, etc., it kept everybody guessing whether or not they would get their particular assignment completed. Some tasks were finished, or at least the end is within sight. Of others that cannot be said. On the latter, however, enough progress has been made to enable us to face the opening of another blister rust season's work with a feeling that the work of the winter months will be a big asset toward making the approaching eradication season the best ever.

The greater part of the winter was very mild and open. Travel by auto, at least on trunk line roads, was not held up a single day. Possibly a few important initial interviews or follow-up calls could have been made by our Blister Rust Organization during the time they were occupied with the miscellaneous duties that were a part of the winter's work. That, however, will not reflect back on the coming season's record.

At a blister rust agents' conference that was held at Albany, New York, on March 26th, a very determined expression to get the wheels of progress in blister rust control work turning and to keep them revolving at top speed throughout the season, was everywhere present. November will tell the story.

H. L. McIntyre, New York.

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WOODLOT IMPROVEMENT SECURED THROUGH BLISTER RUST CONTROL

Pruning Infected Branches Saves 66% of Infected Trees.

Occasionally it is possible to combine woodlot improvement and blister rust control. In 1925, I found a plantation in New London badly infected with blister rust. An examination of a portion of it revealed a high percentage (75%) of the trees diseased. In talking with the owner I suggested that it would be possible to improve the quality of the trees and at the same time save a great many of the diseased trees if he would prune them. I reexamined the plantation last year and find that in carrying out this program the owner had saved two-thirds of the infected trees. The trees that will die are those on which the disease had reached the trunk. The owner is very much gratified at the results of his work and for having the matter brought to his attention.

T. J. King, New Hampshire.

Edit: This is an exceptionally good piece of work which Mr. King has related. It seems as though there is something more to blister rust control than just the eradication of Ribes doesn't it?

BLISTER RUST CONTROL DISPLAY AT THE BOSTON FLOWER SHOW

The display set up at this show was almost identical with that placed at the Springfield Exposition, (in the Massachusetts Building) last fall. We did, however, try to improve upon this latest display by using a stereo-motor-graph in place of a continuous moving picture machine. The usual red arrows were used to indicate the location of cankers and in addition, bright yellow cardboard was used as a background to draw attention to the constrictions etc. Appropriate wording was in black letters on this background.

The first three days of the show seemed to indicate that a record crowd would be tallied for the week. One hundred and sixteen thousand people paid admission to the hall; aside from these several thousand passes were issued. Approximately 500 blister rust publications were given out and several hundred return post cards. Interest in the rust exhibit was keen and contained throughout the week. The attendance at this show sets a new record for the Mechanics Building.

There was a great demand for blister rust literature and once again we felt the need of a small, inexpensive folder that might be distributed more freely to the mildly interested grown-ups as well as to the school children.

March 19, 1929.

G. S. Doore, Mass.

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A WORD OF APPRECIATION

Mr. Ralph M. Hutchinson, former blister rust agent in Maine, writes a letter of appreciation for the lantern slides made from the pictures of Mr. O. M. Pratt's pine in North Holderness. He states:

"I have used these slides at several meetings since receiving them and they have gone over just fine. I have a slide or two which shows second growth natural pine which has not had improvement work, and the contrast is outstanding.

"I am sorry that I did not get the chance to visit your office while in Washington during the last week in February but we were busy in conference about all the time."

* * * *

Edit: Some of the blister rust agents now show good pictures of white pine with the best silvicultural practices in addition to the regular blister rust control slides. If some of the agents who have not received the slides on Pratt's pines desire them, they may secure a set from the Washington Office. Mr. Pratt, who is an ardent believer in the future of white pine and in blister rust control, has been practicing thinning, pruning and moderate cutting of white pine for a great number of years.

BLISTER RUST CONTROL - NOT ERADICATION

In Berkshire county this season 107,400 wild currant and gooseberry bushes have been destroyed on 35,645 acres of land. By the time this paper is read the figures will be much larger. During the past few years 944,216 of these wild bushes have been destroyed in this country while in all New England the total is now many millions.

To many people it may appear that all currant and gooseberry bushes have been eradicated. Such, however, is not the case, nor will they ever be eradicated. To eradicate all the bushes of this family would be a hopeless task even if this act were needed to protect the white pine. The problem is to control blister rust, not by eradication of all currant and gooseberry bushes throughout the country, but rather by destroying as many of these bushes as is humanly possible within infecting distance of white pine.

The control of white-pine blister rust is a matter of suppression, that is, of keeping the disease down to a point where no serious damage results to the pine. This is accomplished by limiting the currant and gooseberry growth to a minimum in the pine regions. In most cases it will mean repeated search for these bushes. Blister rust is firmly rooted in this country, and in this country; it will always be here.

The pine owner cannot eradicate it but he can keep it under control by destroying the wild currant and gooseberry bushes when he finds them on his property.

The problem in its broader aspects is comparable to the control of disease in human beings. Smallpox, a dreaded disease among mankind, formerly took heavy toll. Young people today give little thought to it but older ones recall its horrors and the pest houses that once were an isolated part of every community. Vaccination has suppressed the disease so that it is under control. It is by no means eradicated. To let down the bars on vaccination would mean a return to smallpox in a very short time. There are other examples: Typhoid fever and diphtheria are suppressed by inoculation with serums. Malaria in the Panama zone stopped the building of the canal until the disease was suppressed by destroying the tropical mosquitoes that spread it. Very recently a Berkshire town was afflicted by a serious malady which caused many fatalities. We saw that disease vigorously suppressed. (None of these diseases are eradicated; they are only under control. They will remain under control only so long as the respective control methods are applied.)

So too may blister rust be kept under control. The method is to keep away from pine stands all currants and gooseberry bushes. This rust is the smallpox of white pines and inevitably it means death to these trees. The pine crop in this county is of sufficient value, both commercially and esthetically, to warrant continued suppression of blister rust. Every property owner in Berkshire is urged to assist in keeping this rust under control.

W. J. Endersbee.

(Extract from the "Berkshire Farmers' Bulletin", Sept. 1928, Vol. 13, No. 9.)

WHITE PINE GROWS WELL IN PENNSYLVANIA

Mr. J. M. Buzard, Stratonville, Clarion County, cut 65,000 board feet of white pine on a tract of $1\frac{1}{2}$ acres in Heath Township, Jefferson County, on which 29 years before he had hoed potatoes. The timber was cut into dimension stuff ranging in size from 2" x 4" x 8' to 10" x 10" x 18' and found a ready market in Pittsburgh. This tract is fertile bottom land between two streams where an abundance of moisture permitted the trees to make their best growth. The stand resulted from wind-blown seed.

Mr. Henry Neeb, Weissport, Carbon County, bought a farm in 1898 which comprised about 100 acres of cleared land and 109 acres of woodlands. Careful records kept by the owner show that more than 250,000 board feet of white pine and hemlock lumber and 2,100 tons of mine props were removed from the area, for which Mr. Neeb received approximately \$8,700. This does not include chestnut poles, fence posts and firewood which were cut by neighbors on a 50-50 basis. Mr. Neeb carefully protected the young trees and favored the most valuable ones during cutting operations. When he sold his farm in 1924 the woodlot had upon it an average of 20 tons of mine props and 2,000 board feet of lumber per acre under which were growing the finest example of natural regeneration of white pine and hardwoods from 15 to 30 feet high to be found in the State of Pennsylvania, and yet during the last 24 years the area had yielded a profit of almost a dollar a day.

(Extract from Bulletin No. 42, "Making Farm Woodlands Pay" - Pennsylvania Dept. of Forests and Waters, 1926. By John W. Keller.)

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BLISTER RUST CONTROL BEING RECOGNIZED AS A PHASE OF FOREST MANAGEMENT

The Water Works Commission of the city of New Bedford, Mass., has recognized the fact that the periodic examination of their white pine plantations for Ribes is an important phase of the management of these pine lands. In 1922, the State assisted the Commission in the initial eradication of Ribes by furnishing a foreman to direct the work of a crew of their regular employees. Plans have been made providing for a re-examination of the areas in the spring of 1929. Fortunately, some of the men who worked in the crew during the initial control work are still in the employ of the Commission and will be available for the re-eradication work.

E. M. Brockway, Mass.

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NEW BLISTER RUST BILL IN THE MICHIGAN LEGISLATURE

The Blister Rust Bill introduced in the State Senate, which was referred to the Agricultural Committee, has been reported out favorably and referred to the Finance and Appropriations Committee of the Senate where it now rests with many other appropriation bills.

April 4, 1929.

D. J. Stouffer, Mich.

IT WON'T BE LONG NOW

Old Man Winter will soon be a thing of the past (for awhile at least) and the good old spring and summer will be coming along before we have awakened to the fact that we have had any winter at all. It was very mild compared to the tough ones we used to get twenty years ago. Last fall was typical weather for field work and most of the winter has been exceptionally good too, except for a little in March, but we must expect some rough weather here in the North country during that month.

During the winter we all sort of den up to a certain extent, especially when the roads get tough and the field work on blister rust control is somewhat lighter, but with the coming spring we will soon be making follow-up calls and interviews to find out how the white pine owners feel about cooperating this year. A good many of them will say:

"Well we didn't have so good a winter; very little snow to get our wood and logs in; potato prices were low and we still have last year's crop on hand; we had to spend all the milk checks for grain to keep the cows producing enough milk to pay for the grain they consume, (etc.).

"I guess I can't spend any money this year to protect my pine, but say, you know I sold a nice bunch of white pine logs this winter at a fair price and I have many young pines coming along to take the places of the ones I cut so maybe I had better look into this blister rust disease because I want these young pines to grow into logs for my boys. They may need a little ready money during some dull winter in years to come. If you will call again after the spring work is done perhaps I can eradicate."

A good many of the agents will be confronted with just such answers and many others, so we must be prepared to meet them in a friendly and cordial manner agree with them to a certain extent, but still secure their cooperation if possible. This is the last year of the present eight year program so let's go "B.R. Hounds" and make this the banner year. That is some proposition because 1928 was a better year than most of us thought, in spite of the rainy spring, but we can beat last year's record if we will set out for it. Let's set the mark at 1,000 cooperators and 100,000 acres protected.

March 16, 1929.

H. W. Holcomb, New York.

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PHENOLOGICAL DATA

Agent T. J. King of New Hampshire in a letter dated April 6th writes as follows:

"While working in an infection area in Pittsfield yesterday I discovered blisters breaking through the bark. This is the earliest that I have ever found them; my previous early data was April 10th several years ago."

MAINE'S WHITE PINES.
RACE OF SILENT FOREST GIANTS IS PASSING

The Pine Tree State is something of a misnomer today. To be sure three-quarters of Maine's entire area still remains wooded, but the white pines of a century or more ago, from which it derived its cognomination, are few and far between. They were a race of silent forest giants that has nearly passed.

The late James Thompson, of Athens, told many stories of early lumbering operations in the northern Maine woods that are still retold in the lumber camps. Speaking of a period that must have been 75 years ago, he once said "The day I was 25 years old I landed with eight others at Tomhegan Stream a pine log that scaled 5,000 feet. There wasn't a man at the landing able to jump on the log it was so big. Years later that log still laid on the bed of Tomhegan. It was so large it was impossible to get water enough to drive it down stream. I saw a pine felled at Sacatean Stream on the North Bay of Moosehead above Kineo that ran 90 feet without a limb, squaring 20 inches at the top.

"On the east shore of Moosehead there was an old pine stump that a pair of six-foot oxen could stand on and turn around. Sounds incredible. I hauled onto the landing of the East Branch of the Kennebec a brown ash that I could just look over by standing on the skids. In all probability that log is at the bottom of Indian Pond now for it was so heavy it seemed impossible that it would ever be floated. ****."

(Extract from "The Portland (Me.) Sunday Telegram" of March 17, 1929. Forwarded by S. D. Conner, Maine.)

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BLISTER RUST CONTROL RECEIVES PUBLICITY IN BERKSHIRE COUNTY, MASS.

"Berkshire County's White Pine Trees Threatened by Devastating Blister Rust" is the title of a two and one-half column article appearing in the Berkshire Evening Eagle, Pittsfield, Mass. for February 9th. A fine picture of Mr. William J. Endersbee appears in the article. Not only is the work of blister rust control well written up but also "Bill" himself. Particular note is made of the value of the roadside exhibitions on blister rust control. The article states that "It has been estimated that more than 200,000 people have viewed the exhibition set up by Mr. Endersbee."

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NOTE TO AGENTS

From now on we are going to try to get the News Letter out during the last week of the month if not somewhat earlier, and for that reason all copy or notes for publication therein should be in by the 10th of the month.

R. G. P.

DIGEST OF WHITE-PINE BLISTER-RUST QUARANTINE (NO. 63) WITH REGULATIONS
REVISED AUGUST 15, 1928.

FIVE-LEAFED PINES

Plants, branches, limbs, and twigs of the species listed in Regulation 1 (b) are covered by these regulations.

(a) Any interstate movement of five-leafed pines must be accompanied by a valid State nursery inspection certificate of the State from which the shipment is made. The container must be marked to show the names and addresses of the consignor and consignee. Each shipment into a State having a legally established blister-rust control area must have attached to the container a control-area permit (Form 415) issued by the inspector designated to act for the Administration in the destination State.

(b) Five-leafed pines must not be moved from the States east of an including Minnesota, Iowa, Missouri, Arkansas and Louisiana to States west of this line.

(c) Five-leafed pines must not be moved from an infected State (or interstate from the infected counties of Oregon) to a non-infected State.

(d) Interstate movement is permitted from the area composed of the New England States, or from New York, to the infected States east of the Mississippi Valley quarantine line, subject to permit of the Plant Quarantine and Control Administration, issued upon compliance with paragraph 1 to 5 of Regulation 2 (d). The movement of pines from the State of Washington to any other infected State is also permitted subject to such requirements.

EUROPEAN BLACK CURRANTS

(e) European black currants are not allowed to be moved interstate except within the area comprised in the States of -

Alabama	Missouri
Arkansas	Nebraska
Florida	North Dakota
Kansas	Oklahoma
Louisiana	South Dakota
Mississippi	Texas

Interstate movement of these plants within the above area is allowed only during the period from October 1 to May 15, inclusive, and each container must be marked with names and addresses of consignor and consignee and have attached on the outside a valid State nursery inspection certificate of the shipping State.

CURRANT AND GOOSEBERRY PLANTS OTHER THAN EUROPEAN BLACK CURRANTS

(f) Any interstate movement of currant and gooseberry plants must bear a valid State nursery inspection certificate of the shipping State and the names and addresses of the consignor and consignee. Each shipment moved into a State having a legally established blister-rust control area must also have attached a control-area permit tag (Form 415) issued by the inspector designated to act for the Administration in such State.

(g) Ribes aureum and R. odoratum are prohibited, movement into the States of New York and Rhode Island from any other part of the United States, under the requirement that no variety of Ribes may be shipped into the State in which the planting and possession of such variety is prohibited by a State law or regulation.

Additional Restrictions Applying to Movement from the Infected States:

(h) The movement of currant and gooseberry plants other than cultivated red and white and mountain currants and cultivated gooseberry plants, from an infected State, or interstate from the infected counties of Oregon, is prohibited.

(i) Cultivated red and white and mountain currant and cultivated gooseberry plants may be moved from the infected States, and interstate from the infected counties of Oregon, only during the period of the year and in compliance with the requirements as to defoliation and dipping which are stated in Regulation 4 (b). The container must also be marked to show that currant and gooseberry plants are in the shipment.

(j) Shipments of Ribes and pines may be made by the United States Department of Agriculture for experimental purposes on such conditions and under such safeguards as may be prescribed by the Plant Quarantine and Control Administration. The container must have attached to the outside an identifying tag from the Administration showing compliance with such conditions.

STATES HAVING LEGALLY ESTABLISHED CONTROL AREAS AT THE PRESENT DATE

Connecticut	Michigan
Idaho	New Hampshire
Maine	New York
Massachusetts	Rhode Island

The list of infected States and counties is designated in Regulation 1(j) as follows:

Connecticut	New York
Idaho	Pennsylvania
Maine	Rhode Island
Massachusetts	Vermont
Michigan	Washington
Minnesota	Wisconsin
New Hampshire	
New Jersey	

and the counties of Clackamas, Clatsop, Columbia, Hood River, Lincoln, Multnomah, Polk, Tillamook, Wasco, Washington, and Yamhill in Oregon.

January 21, 1929.

M. A. Thompson,
Plant Quarantine & Control Administration.

BLISTER RUST SIDE SHOW

Every worthwhile circus has its side-show as an added drawing card. Now, I would not pretend to liken a blister rust display to a circus, but my attention was directed to a little pine-bark borer that was operating in a pine specimen in one of our 1928 displays. This little fellow was working at top speed passing out the chips like a regular woodsman, and was putting on such an exhibition that he completely emptied the "Big Tent" of its audience with his little "Side-Show".

If you need a little animation for an exhibit, just enter into a contract with a Tomicus pini or whatever his name may be and let him draw the crowd. Be sure, however, to arrange to have him cease operations once in a while, so that you can "do your stunt" too.

C. C. Perry, Mass.

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THE NUMBER OF NEW HAMPSHIRE TOWNS MAKING APPROPRIATIONS FOR BLISTER RUST CONTROL INCREASING

It may be of interest to learn of the result of town meeting here in New Hampshire. While our reports are not entirely complete, there still being some towns to hear from, nevertheless, we have a record of 93 towns and one city which have appropriated the sum of \$27,800. In addition we feel certain that the cities of Dover, Laconia and Concord will appropriate a total of \$1,900, thus making a fairly certain total of \$29,700. Advices from Wolfeboro and Whitefield hold forth the promise that the selectmen of these towns are likely to put up a few hundred dollars for control work as apparently the matter was left in their hands. There is also a likelihood that the Department of Public Works of the city of Portsmouth may cooperate with us on the re-eradication. For a comparison of 1929 with 1928 you may be interested in learning that last year 79 towns and cities appropriated \$28,700 and three municipalities put up \$600 for inspection of pine around their water supply.

The outlook for private cooperation also appears to be considerably better than last year.

L. E. Newman, N.H.

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MICHIGAN NOTES ON THE BLISTER RUST

Correction to List of Infected Counties.

Mr. Stouffer has called our attention to the fact that there is an error in the counties in his State which were listed as having blister rust in 1923. The two counties listed as Ionia and Menominee are in error and should be Iosco and Baraga. The new counties in Michigan in which this disease was found in 1928 are therefore as follows: Baraga, Charlevoix, Cheboygan, Dickinson, Gladwin, Gogebic, Iosco, Keweenaw, Marquette, Missaukee, Montcalm, Newaygo, and Roscommon.

REFORESTATION NEEDED IN PLYMOUTH COUNTY MASS. FOR FUTURE USES

Beginning With Adam Man Has Needed Trees to Make
His Material Life Complete.

The first man, Adam, used timber in the form of a wooden club to kill his prey. The Indian likewise used a wooden club for the same purpose and also to fight his enemies. He used wood for bows and arrows and canoes and other utensils. Civilization has advanced since those times and man's wants have multiplied. We find ourselves using wood today in larger quantities and in more ways than during any previous period in the world's history.

Wood is consumed, either directly or indirectly, every day by every man, women and child in the country. We have to rely upon the farmer for our feed. He used wood for buildings and fences. He cultivates and harvests his crops with tools and implements most of which have wooden parts. He ships his products in wooden boxes, carried on wagons or trucks built partly of wood. They are shipped on railroad cars which contain some wood and run on wooden ties.

The houses we live in are largely built of wood, as are the large office buildings and factories. Each one of us is constantly using wooden furniture, the varnish finish on the same even coming from wood. The shoes we wear are made on wooden lasts and are tanned by bark from wood. The cloths we wear come from yarn that was woven on wooden shuttles. Wood fuel cooks the food and heats the homes of millions.

The automobile we ride in contains wood. Most of our telegraph, telephone, electric light and trolley wires are strung on wooden poles. The paper bag we carry groceries in come from wood. Our ink contains rosin from wood.

In short we ask the question, - can we do without wood? Certainly not, because everything we do and every thing we wear or eat has a direct bearing on wood.

It is up to each and every one of us to conserve and also help to protect what we have today in natural resources. Those of us that have woodland can protect the same for the future from fire, insects and diseases. We can stop the spread of the white-pine blister rust disease by making sure that there are no currant and gooseberry bushes in the vicinity. Those of us that do not own woodland can buy up waste land and plant the same. This is an excellent way to invest as the land can be reclassified and the taxes remain the same as if the land had never been planted. The next issue of the Farmer will contain the new Massachusetts Forestry law, which describes the new land classification.

Let's all put our shoulder to the wheel and make bigger and better forests in Plymouth County.

E. M. Brockway, Mass.

(Extract from "The Plymouth County Farmer". Vol. XIV. No. 2. Feb. 1929. p. 2.)

BLISTER RUST HAS STRONG HOLD ON PINES IN WOOLWICH, ME.

Mr. Frost writing to a correspondent in Woodwich, Sagadahoc County, Maine, gives a birdseye view of blister rust conditions in that town.

"Briefly, I will say that the disease has a strong hold, and is affecting much of the young reproduction and second growth in the town. This condition is general throughout your section of the State, proof of which is borne out by the infection figures taken from many sample plots, figures showing that the rust has attacked over one-half of the trees in many lots.

"Within the past few days this office made a careful study of conditions on land owned by Mr. Alfred Trott, and found that 106 or 52% of the 204 trees examined have blister rust, some of the trees being dead or dying, while many others have branch cankers which will soon reach the trunks of the trees and kill them. Trees in this condition are doomed, and unless control measures are undertaken soon, this condition will steadily become worse.

"A summary of the examination made on about one acre of the Trott trees is as follows:

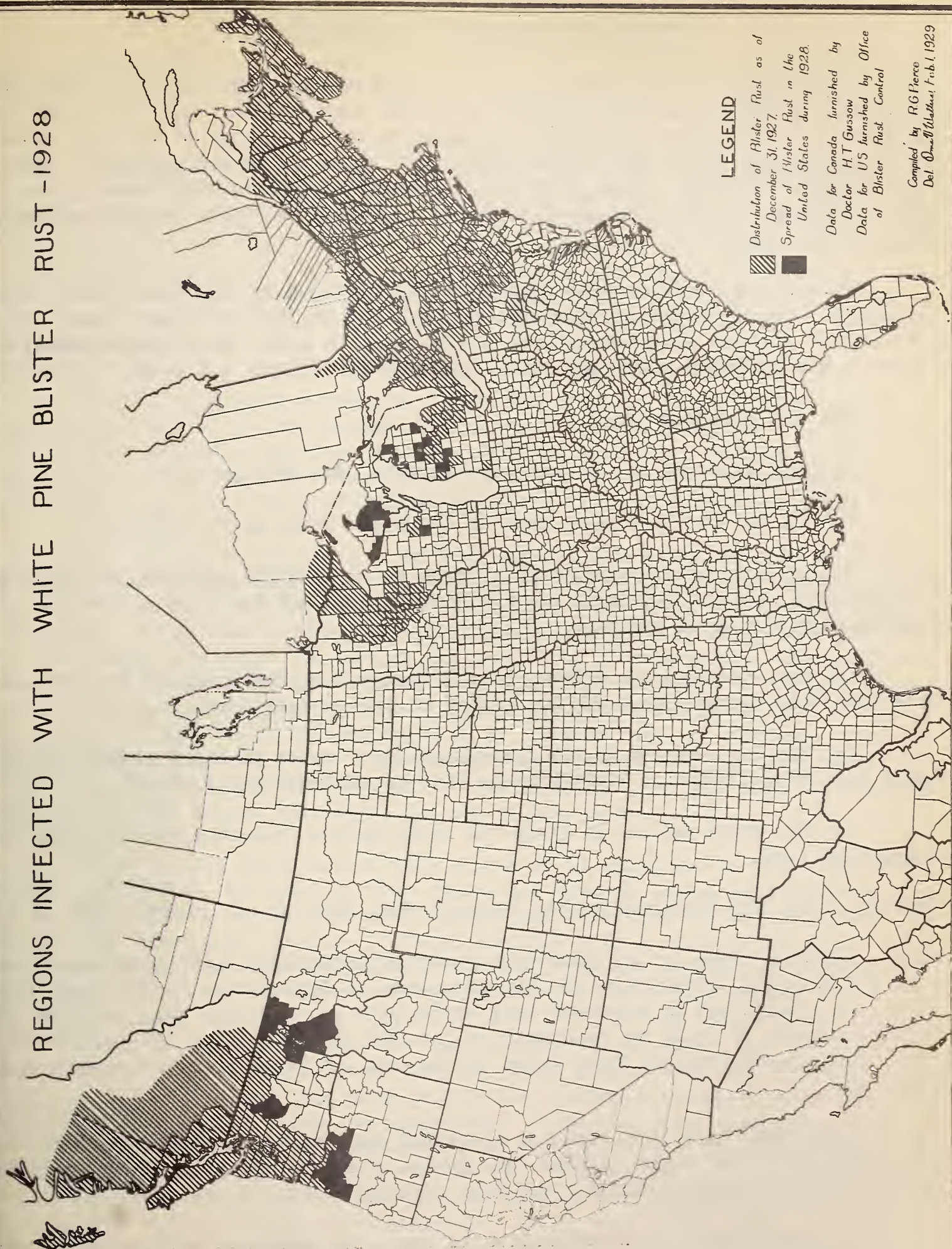
204 trees were examined for all cankers.
106 or 52% of them have blister rust.
There are 181 live branch cankers (many will reach trunk).
There are 17 dead branch cankers (branches died).
There are 28 live trunk cankers (trees will soon die).
There are 7 dead trunk cankers (trees dead).
A total of 229 infections were found, infection by years taking place as follows:

1	infection	in	1913
7	infections	in	1914
5	"	"	1915
4	"	"	1916
19	"	"	1917
24	"	"	1918
51	"	"	1919 - heavy all over State (wet season)
18	"	"	1920
46	"	"	1921
26	"	"	1922
8	"	"	1923
9	"	"	1924
8	"	"	1925
2	"	"	1926
1	"	"	1927

"Infections for the past five years are not old enough to be readily found, but will show up better within the next year or two. It requires about three years for the rest to produce fruiting bodies."

W. O. Frost, Maine.

REGIONS INFECTED WITH WHITE PINE BLISTER RUST - 1928



LEGEND

▨ Distribution of Blister Rust as of
December 31, 1927.

■ Spread of Blister Rust in the
United States during 1928.

Data for Canada furnished by
Doctor H.T. Gussow
Data for U.S. furnished by Office
of Blister Rust Control

Compiled by R.G. Pierce
Det. Ome. M. Waltham, Feb. 1, 1929

TAXES MAY BE REDUCED IN MASSACHUSETTS

Taxes upon growing woodlots may be considerably reduced by having the woodlots classified as such according to the new woodlot tax law. The law proposes that the timber land shall be taxed on the valuation of the land alone. The standing growth is free of tax until cut, or until it has reached a specified average yield per acre. When that amount of growth has taken place or when the lumber is cut, the owner will pay a six per cent tax upon the stumpage value of the trees.

Owners may have the land classified as woodland by applying to the local assessors. The application should be accompanied by data about the land. This data should include the present town valuation, its area, the average number of hardwood and softwood trees per acre, and average volume per acre at present.

The law provides that:

(a) The land can not be assessed at more than \$25 per acre.

(b) It can not have more than 20 cords per acre on the average.

(c) It must be so stocked with trees as to promise to yield at maturity 20,000 board feet of softwood or 8,000 board feet of hardwood per acre. If mixed growth strike an average.

(d) The owner may cut \$25 worth of stumpage free each year for his own use. More than that amount has a 6% tax levied on the stumpage cut.

(e) The lot remains on the classified list until it has a crop of 25,000 board feet of softwood or 10,000 board feet of hardwood per acre.

(f) Two years notice is given the owner before removing the lot from the classified list.

(Extract from "The Plymouth County Farmer", Vol. XIV, No. 3. March, 1929, p.3.)

Edit:- Agents! Here is an opportunity for Massachusetts agents to cooperate with the Division of Forestry of the Department of Conservation. If these lots which are classified as woodland have white pine on them and many of them are likely to have, it will be necessary to protect the pine from blister rust if the towns are to realize full value in the way of taxes from the timber crop when cut.

This would seem to present an excellent opportunity to cooperate with the town assessors, who could furnish the agents with the names of those applying for such forest classification, and data concerning each forest lot.

In other States than Massachusetts there are somewhat similar laws concerning the classification of land as woodlands. In these States there should be the same opportunity to cooperate in protecting the pine from the blister rust.

R. G. P.

EDUCATIONAL MEETINGS HELD IN NEW HAMPSHIRE

State leader L. E. Newman in a recent letter gives an interesting account of some educational meetings held in New Hampshire prior to town meeting. He writes:

"I attended six meetings arranged by Tom King over a period of weeks prior to the twelfth of March in the towns of Deering, Webster, Chichester, Salisbury, Francestown and Sutton. In most of these meetings we offered a combination program of films of general forestry interest as well as "The Pines". In some of the others we used the blister rust lantern slides to cover that subject and secured through the General Electric or Office of Motion Pictures at Washington, general films dealing with forestry or agriculture and of especial interest to farmers.

"I also addressed a meeting of the New Hampton Women's Club, a meeting which I took care of at the request of the State Publicity Bureau. In addition, T. L. Kane arranged a meeting with the Osceola Grange at Campton and at this meeting "The Pines" and two other forestry films were shown. Independently of blister rust agents, I have addressed two Men's clubs and also one Rotary club.

I do not know, of course, to what extent the State leaders and agents of other States are using lantern slides, but I confess I was much suprised this winter to note how favorably lantern slide talks were received by so many audiences. I had come to believe that slides were sort of passe and that people were only interested in motion pictures. If I have gauged the sentiment correctly it seems to me that there is a revival of interest in lantern slides and I am of the opinion that we should use slides oftener than we do. Certainly they permit a more detailed description of blister rust or whatever phase of forestry one is talking about. I believe also that as the pictures remain before the audience for a few seconds or few minutes they are able to memorize many points much better than with the use of the film.

"There is one more matter that might be of interest to the other State leaders and agents and that is that there are several large corporations like the General Electric or Ford Motor Company, and I presume there are others, who have a very excellent library of films dealing with a variety of educational subjects; films which are almost entirely free from any suggestion of advertising. These films can be secured for a limited time by simply paying the carrying charges both ways. Films covering such interesting subjects as logging in different parts of the country, the production of wheat and the manufacture of flour, the mining of salt and its final preparation for the use of the consumer; films covering the many scientific things of popular interest, are among the offerings of these two companies. I believe that a program is often enhanced considerably by the exhibition of a single reel, perhaps using some other subject than blister rust or forestry. I know that it is somewhat of a relief to the man putting on the meeting and it certainly is an educational feature much appreciated by the audiences. It is very likely that the blister rust organizations in other States have discovered these other sources which will help in putting a good meeting over, but for the benefit of those who do not know of such possibilities I am passing this along for what it is worth."

L. E. Newman, N. H.

EARLY DATE FOR BLISTER RUST AECIA

Agent E. M. Brockway of Massachusetts has reported finding aecia showing through the bark on two trees at the Ames estate in North Easton, Bristol County, on March 27th.

* * * *

Mr. Harrison G. Strait, New York Agent, in a recent itinerary report, reports the presence of blister rust aecia on northern white pine (*Pinus strobus*) on March 30th. Mr. Strait writes as follows concerning a trip from Hyde Park, Dutchess County, to the Skokan Reservoir:

Made trip with Paul Richmond going over plantings of white pine around Skokan Reservoir. Richmond was one of the foremen when work was done there several years ago. We found a dozen or so stem canker infections that were just beginning to fruit. I have never seen any fruiting this early before.

* * * *

Edit: Has anyone noted the appearance of aecia this year earlier than the above dates?

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BLISTER RUST ERADICATION WORK CARRIED ON IN RHODE ISLAND

I was fortunate in being able to give six talks during the month of March. Three evening talks were given to local granges and one lantern slide talk was given to a group of men at the Providence Y.M.C.A. The President of the Providence Lions Club invited me to one of their Wednesday luncheons and I explained some of our State work to the members. The first meeting of the licensed arborists of Rhode Island was held during March and I gave one of the nine talks on the program. Blister rust and its control was explained to the fifty men present and colored lantern slides were shown to increase their knowledge of the disease. Doctor Snell of Brown University, Professor Collins and Doctor Howard, U. S. Office of Forest Pathology, were some of the other speakers on the program.

The people in Rhode Island are becoming more and more interested in forest protection, and talks and news items on forestry activities are on the increase. I expect to give a radio talk on protecting our pines through cultivated black currant eradication later this month.

A. W. Hurford, R. I.

MASSACHUSETTS BLISTER RUST LAW AMENDED

While some of the other cooperating States have been engaged in strengthening their blister rust laws (Connecticut by a request for a black currant law; New Hampshire by petition for provisions for compulsory town appropriations under certain conditions; and New York by perfecting amendments) the Massachusetts legislature has slightly weakened its law.

The original blister rust law in Massachusetts was a modification of the so-called nursery inspection law. This original statute enacted in 1917 provided that the Nursery Inspector or his assistants could destroy not only infected Ribes but any such plants that "are so situated that they are likely to become so infected". The statute further provided the Nursery Inspector or his assistants with the necessary authority to destroy such bushes "forthwith". In 1925, the legislature further strengthened the law by adding a number of perfecting phases among which was the additional provision "may without notice" forthwith destroy.

As a result of a protest following the removal of certain cultivated Ribes during the field season of 1928, however, a petition was presented to the 1929 legislature providing for the repeal of the perfecting amendments of 1925 and requesting the addition of a provision permitting an owner to appeal from the proposed action involving the removal of Ribes. The final result of this petition is an amendment to the law removing the original "teeth" that is, the word "forthwith" and adding a section under which an owner may object "in writing" to the proposed action of destroying Ribes; may request a hearing; and thereby delay proceedings ten days pending the hearing of the protest by the Commissioner of Agriculture.

It would seem as though the removal of cultivated Ribes is a sufficiently difficult proposition without the addition of this restraining element. However, in spite of this, the Massachusetts blister rust control organization will continue in its effort to prevent the further spread of the disease. In accordance with the State policy the personnel will persist in the effort to use "persuasion rather than compulsion" and will urge owners, as in the past, to remove their cultivated Ribes of their "own-free-will and accord".

In connection with this matter of the "orderly removal of cultivated Ribes" it is of passing interest to note the Massachusetts record in regard to this "most troublesome problem".

Cultivated Ribes Destroyed in the Northeastern States During
the Period 1922 - 1928, Inclusive.

<u>State</u>	<u>No. cultivated Ribes destroyed.</u>
Massachusetts	178,806
Maine	78,988
New Hampshire	67,250
New York	18,550
Rhode Island	7,816
Connecticut	6,281
Vermont	5,192
All States	332,883

The table speaks for itself and those who had anything to do with the removal of cultivated Ribes will doubtless appreciate what the Massachusetts agents have encountered in the eradication of these 178,000 bushes - 49% of the total number removed in the Northeastern States. Needless to say, this work has not been accomplished without some serious criticism, some dissatisfaction and occasionally some vehement verbal and physical resistance.

C. C. Perry, Mass.

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SERIES OF CIRCULAR LETTERS USED SUCCESSFULLY BY AGENT KING OF N.H.

Mr. Thomas J. King, New Hampshire Agent whose headquarters are at Concord, recently sent in a set of interesting circular letters which he has been using during the past winter months. The set includes a series of 4 letters, 3 of them being general and referring to conditions throughout the State. These are sent out at intervals of about a week. He also has another letter or circular which he sends out after town meeting showing the results of the action taken by the different towns on the question of blister rust control, and thanking the leaders in the towns for their interest and cooperation. Copies of these letters will be sent to agents desiring them.

For the past two or three years Mr. King has been using such circular letters and articles in his work with marked success.

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BLISTER RUST AGENT FINDS 4 H FORESTRY CLUB A LIVE-WIRE ORGANIZATION

A live-wire 4 H Forestry Club is carrying on at the Junior High School, in the town of Needham, Massachusetts. This club is now in the second year of its existence and has a membership of 46 boys. Every boy is interested, and is collecting specimens and some of the boys are corresponding with boys in Germany to learn how they take care of their woodlands over there. If anyone doubts that this is a live club, just attend one of their meetings and give a talk on blister rust as I did and try to answer all the questions that will be fired at you.

In connection with the club meetings, special forestry songs have been written and they are sung before and after the meetings. Two of the songs are recorded below for the musically inclined readers of the NEWS.

E. M. Brockway, Mass.

Edit. - The songs were good but unfortunately space is lacking to print them. Those desiring copies of these forestry songs may get them from Mr. Brockway.

TOWN TREE WARDEN - A GOOD LOCAL LEADER IN BLISTER RUST CONTROL

The town of Marion, Massachusetts, is fortunate in having a live-wire Tree Warden (Mr. Alfred Hill) who is making every effort to preserve the trees which add so much to the attractiveness of this popular South Shore summer resort. Much of the land is owned by non-residents, but Mr. Hill looks out for their interests when they are not in Marion. This coming spring Mr. Hill plans to re-examine the Town Forest, other town lands, and the estates of a number of summer residents for the purpose of destroying any Ribes which may have come in since the initial eradication work of a few years ago. Mr. Hill has visited a number of infection areas in the vicinity of Marion and is a real advocate for blister rust control. If properly informed a Tree Warden makes an ideal Town Leader.

E. M. Brockway, Mass.

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BELATED REPLY FROM SCHOOL SURVEY

Mr. David J. Stouffer of Michigan writes as follows concerning a reply from a school survey in Marquette County:

"On March 28th, received another school survey report from Champion in Marquette County. Infected leaves of R. americanum, R. nigrum and cultivated gooseberry were contained in the small students' envelopes. Feel quite certain that leaves were gathered last fall but teacher neglected to send them until now. Of the six reports received from Marquette County, five contained infected Ribes leaves. Would conclude that pine infections might be located in that vicinity. Will be anxious to scout in the area."

D. J. Stouffer, Mich.

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PINE PLANTING IN 1870 IN NEW HAMPSHIRE

While engaged in inspecting the plantation of white pine owned by U. S. Senator Keyes at Haverhill, N. H., I noticed that about an acre of large trees were growing in rows about six feet apart. My curiosity was aroused concerning this condition so I called upon Senator Keyes to learn more about the large pines. I was informed that these white pines were set out by the father of Senator Keyes in 1870. It seems that this certain locality was extremely sandy and when the wind was blowing a gale it would scatter the sand all over the estate. In order to correct this state of affairs the elder Mr. Keyes decided on transplanting some small white pines from a nearby pasture to this sandy lot with the result that a beautiful grove of beautiful white pines about sixty

and some files are no longer used on the shelves and desks

OFFICE COMMENT

TRAVEL EXPENSES - PULLMAN RECEIPTS

Employees who use sleeping car or pullman car accommodations and pay cash for same, are cautioned to exercise care with the receipts issued by the sleeping or pullman car companies as the Comptroller has recently ruled that payment will not be made for such services if receipts have been lost and cannot be duplicated.

4/9/29

H. P. Avery.

CONTRACT OF HIRE FOR PERSONALLY-OWNED AUTOMOBILES

Occasionally employees who purchase new automobiles write to this Office for a copy of the "Contract of Hire" form. Formerly, every employee operating a personally-owned automobile was required to execute a copy of this form for use in connection with any claim for loss or damage that might be incurred while on official work. The Comptroller has since definitely ruled that the seven cents a mile is all that will be allowed operators of personally-owned automobiles on this basis. Therefore, the filling out of the contract of hire forms is no longer necessary.

4/10/29

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H. P. Avery

AMONG OURSELVES

Mr. E. C. Filler in charge of the eastern field office at Boston, announces the birth of a son, John Edmund, on March 28th. Congratulations.

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Mr. R. G. Pierce left Washington April 10th for a field trip to Parsons, West Virginia.

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State Leader A. W. Hurford of Rhode Island recently informed us that his address has been changed from 129 State House, Providence, to 310 State House. The State Department of Agriculture has moved to the third floor and now has five offices and a laboratory instead of just one office.

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Agent S. V. Holden, stationed at Brattleboro, Vermont, resigned March 19th.

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Mr. Percy B. Rowe, Junior Forester at Spokane, resigned March 11th.

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Agent E. D. Clark's headquarters have been changed from Litchfield, Connecticut, to Torrington.

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Agent W. T. Roop of Arlington Heights, Massachusetts, returned to duty on March 18th. He had been on leave since January 7th.

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Mr. F. M. Callward has resigned as Forestry Extension Specialist in Vermont to accept a teaching position at St. Lawrence University, Canton, New York.

OBITUARIES

It is with regret that the Office has learned of the death of Agent S. V. Holden's wife on March 27th, and of Agent T. J. King's father about February 18th. Our sympathy is extended to them in their bereavement.

Office Anniversaries.

In the February issue we mentioned Mr. C. C. Perry's ten years of service. In April we celebrate the birthdays of the following members of the force who have been engaged continuously in blister rust control work for a period of ten years or longer.

Mr. L. E. Newman, New Hampshire State leader - 13 years - entered service April 27, 1916.

Mr. J. E. Riley, Jr., Connecticut State Leader - 10 years - entered service April 18, 1919.

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With the Blister Rust Bowlers at Washington.
Synopsis of 1928-29 Season

Name	Games	High Set	High Game	Spares per Game	Strikes per Game	Average
Posey, G. B.	69	389	150	1.74	.43	103-57
Martin, J.F.	63	353	145	1.61	.35	102-55
Palmer, J.M.	83	361	149	1.63	.31	101-5
* Sheals, R.A.	25	324	121	1.8	.36	100-18
* Moller, P.P.	15	354	140	1.46	.33	100-5
Avery, H.P.	75	335	128	1.72	.29	99-50
* Hopkins, F.J.	27	313	128	1.44	.33	98-5
Ninman, H.J.	18	305	115	1.33	.28	96-9
Fivaz, A. E.	36	320	114	1.53	.33	96-8

* Not in Office of Blister Rust Control but bowling with them.

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Miss Martha J. Preitkis received an appointment as agent at Sacramento, California, to take the place of Mrs Esther Buchman who resigned March 20th.

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Mrs. Myrtle Brierley, Ass't Clerk Stenographer at Corvallis, Oregon, resigned March 14th.

P U B L I C A T I O N S

Blister Rust

Anon. (Western) White Pine Blister Rust Conference. Timberman, Dec. 1928, Vol. 30, No. 2, pp. 50-54.

Anon. White Pine Blister Rust Experts Hold Annual Conference in Portland (Oregon). Four L Lumber News, Jan. 1929, Vol. 11, No. 1, p. 34.

Enderbee, W. J. Blister Rust Control - Not Eradication. The Berkshire Farmers' Bulletin, Sept. 1928, Vol. 13, No. 9, pp. 1,2 & 3.

" Cheap Protection. The Berkshire Farmers' Bulletin, Jan. 1929, Vol. 14, No. 1, p. 7.

" White-Pine Blister Rust. The Report of the Berkshire County Forestry Program Committee. Published by the Massachusetts Forestry Association, Dec. 31, 1928. page 3.

Hahn, G. G. The Inoculation of Pacific Northwestern Ribes with Cronartium Ribicola and Cronartium Occidentale. Journal of Agri. Research, Dec. 1, 1928, Vol. 37, No. 11, pp. 663-683.

Hickel, Robert. La Rouille des Pins a Cinq Feuilles (The Rust of White Pines). Bulletin de la Societe Dendrologique de France, No. 68, 15 November 1928, pp. 97-101.

Hockey, J. F. Currant Rust Control. Scientific Agriculture, Vol. IX, No. 7, March 1929, pp. 455-457.

Snell, Walter H. Some Observations upon the White-Pine Blister Rust in New York. Phytopathology, March 1929, Vol. XIX, No. 3, pp. 269-283.

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BLISTER RUST NEWS



May, 1929.

Volume XIII

Number 5.

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
Office of Blister Rust Control



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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister Rust Control
and the Cooperating States.

VOL. 13, No. 5.

May, 1929.

EASTERN CONFERENCE PROCEEDINGS OUT

The Report of the Proceedings of the Fourteenth Annual Blister Rust Control Conference held in Providence, Rhode Island, November 19-20, 1928, has just been mimeographed and copies have been released to the blister rust employees in the Eastern States as well as to others interested in the work. While practically all of the agents were present at Providence and heard the addresses given, it would seem advisable to look over the conference proceedings now and then, become familiar with its contents and then, as time permitted, study the various papers. For example, those of our agents who are particularly afflicted with large skunk currant areas would probably benefit by again reading Mr. Connor's article on "Skunk Currant Eradication" found on page 23 of the last proceedings. In this connection, I might also refer to the article entitled "The Feasibility of the Eradication of Skunk Currants" by Messrs. Perry and Clave on page 71 of the proceedings of the Thirteenth Conference in 1927. There was also a very good paper by Mr. Newman on "Ribes Re-eradication" which appeared on page 56 of the 1928 conference report. The above will serve as examples to show the value of knowing the contents of the conference proceedings and the advisability of using them in your every day work.

R. G. P.

RHODE ISLAND GETS AN EARLY START IN RIBES ERADICATION

A State crew of four men, a foreman and three scouts, started the blister rust control field work of the season on April 22. The men are spending most of their time at present scouting for and eradicating cultivated black currants (*Ribes nigrum*). While working the pine-growing districts or, as we consider them, control areas, the men are to make a survey of all cultivated *Ribes*. This complete survey will be continued in the control areas, providing too much time is not taken up by such extra work. During the first two week's work, 660 cultivated black currants were found and pulled up without any serious objections on the part of the owners. The agent believes this is due to the educational work carried on, and especially to the black currant posters placed in local post offices and stores before scouting a township.

"Little Rhody" Believes in Planting White Pine

The State Department of Agriculture has recorded the planting of 138,150 white pine in Rhode Island this spring. A total of 225,000 trees of all species are being used for reforestation purposes this year. White pine is the most favored species and it indicates that blister rust control must be carried on more extensively every year. The Providence City Reservoir Division planted 74,000 white pine on their watersheds at Scituate. The City of Pawtucket planted 20,000 white pine on their watersheds in Cumberland. The City of Woonsocket also added more trees to their watersheds in Cumberland by planting 5,000 white pine. Mr. Gorton Lippitt of Hamilton, R. I., is planting 23,000 white pine on his estate. This is the largest private planting operation of the season. Mr. Lippitt by invitation of the agent attended the 1928 Blister Rust Conference held at Goddard Park, Warwick, R. I.

A. W. Hurford, R. I.

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JOHNSTOWN'S MEMORIAL TO THE A. E. F.

Now that the needles on the pines are beginning to green up and the grass is still somewhat brown, those passing by the Johnstown (N.Y.) Watershed plantation on the Johnstown-Dolgeville road are noticing the outlines of letters on a sidehill some half a mile away. The letters, A.E.F., are designed with Scotch pine, planted four to five feet apart, the letters themselves being about forty feet tall and thirty feet wide. The trees are about two feet tall.

Superintendent Lucien Hillabrandt of the Johnstown Waterworks, planted these trees as "a little memorial to the Boys". He didn't tell anybody, but waited for the letters to make themselves known, which they are now beginning to do. When this present season's growth has been made the branches will begin to touch each other, completing the outlines of the letters in the characteristic gray-green of the Scotch pine.

J. W. Charlton, New York.

PHENOLOGICAL DATA

Mr. J. Mac G. White, Blister Rust Control Agent in Maine, reports finding aecia on an infected pine in the town of Norridgewock, Somerset County, Maine, on April 24th. He also reports finding the leaves on Ribes glandulosum well started on April 25th, and on Ribes nigrum and cultivated English gooseberries on April 29th, in the town of Winslow, Kennebec County.

* * * *

Agent S. H. Boomer of New Hampshire reports aeciospores appearing earlier this year in Carroll County, N. H., than they have for several years. In the following table he gives the dates for the first appearance of aecia in the years 1924, 1925, 1927, 1928, and 1929, and the location at which found:

April 9, 1929	- Sandwich
April 20, 1928	- Moultonboro
April 21, 1927	- Eaton
April 30, 1925	- Bartlett
May 2, 1924	- Madison

* * * *

In a note of April 17th, Agent W. F. Pratt of New York writes as follows concerning Ribes conditions in New York:

"Had one foot of snow last night. Ribes bushes have not yet started to open up their buds. It looks as if the season would be a week or two behind Warren and Essex Counties. Skunk currant buds yesterday were as tight as they were last November."

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MINNESOTA FORESTRY BILLS INCLUDE WHITE-PINE BLISTER RUST CONTROL

The following bills were passed by the Minnesota legislature and signed by the Governor:

Appropriating \$40,000 for a land economic survey of the timber region; providing for interchange of State and Federal forest lands to allow consolidation for forest management; reducing tax on private land designated for permanent forestry from 8 to 5 cents an acre, plus 3-cent fire tax and 10 per cent yield tax; strengthening fire laws and holding persons responsible for starting fires in the woods; authorizing State forester to accept gifts of land of 40 acres or less as sites for fire towers or headquarters, and empowering him to condemn lands for that purpose; and providing means to combat white-pine blister rust.

(Extract from the Forestry News Digest, published by The American Tree Association, Washington, D. C., May, 1929, page 1.)

LANTERN SLIDES

I believe that Mr. Newman in the April issue of the NEWS made a very good point in his recommendations regarding the use of colored lantern slides.

In this connection I might refer to an incident regarding the use of lantern slides, not for lecture purposes but for purposes of display in a stereomograph. At a demonstration which we put on in March in connection with the Centennial Flower Show in Boston, we made use of a stereomograph as the central object in our exhibit. In the machine we had a series of 48 picture and word slides which gave a most complete story of white pine and of blister rust. The motor was timed so that the title slides could be read leisurely and we found that this method of presentation was much more effective than the motion picture outfit because of the possibility of showing color and the use of a larger number of explanatory word or title slides. It was truly surprising to note the interest which this machine and series of slides stimulated.

There is no question that the educational film has its place but it seems that, as a rule, the public thinks of the film as a means of entertainment rather than education. Of course, in the case of a special meeting called for a specific purpose, those who attend are naturally interested in the educational phase. The lantern slide is far from the discard however, and I am convinced that in the stereomograph there is a field for educational endeavor that has hardly been touched.

C. C. Perry, Mass.

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LARGE PINE INFECTED WITH BLISTER RUST

Data has recently been received from W. S. Codman, one of our blister rust employees at Eldred, New York, concerning a large white pine infected with the blister rust. This may not be the largest white pine in the East infected with the rust but it is perhaps worthy of note because of its size. The tree, which is located in the town of Lumberland, Sullivan County, New York, is 22 inches in diameter at the base and about 75 feet in height. The canker is on the main stem about 50 or 60 feet from the ground, the tree at that spot being about 10 or 12 inches in diameter. Attention was first called to this tree by Messrs. Hodgkins and Harpp in the Blister Rust News for February, 1929, page 38.

It would be interesting if each of the agents would be on the lookout for the largest trees in their district infected with blister rust and if they would submit a photograph and information to the Washington Office stating the location of the tree, the extent of the infection, size of tree, both diameter and height, and the condition of the tree. Such data as this would be of interest not only to the Washington Office but to the agents themselves in showing how blister rust attacks even the largest pines.

R. G. P.

PLAN WHITE PINE PLANTATION WITH WORKABLE BORDER

"Use your head and save your heels" is an old saying no doubt older than blister rust itself but one which applies to our modern times and to our particular line of work.

This spring I had occasion to suggest plans for a layout of a large forest plantation. The species of trees to be planted were red pine, white pine, and spruce. The first thing was to decide on the type of soil best adapted to the species. After that, consideration had to be given to the locating of the white pine in a place where, if possible, the border zone would be free of Ribes or unfavorable to their growth. With a little planning a location was decided upon where Ribes eradication will be reduced to a minimum. This point, I believe, is not considered seriously enough by the average man in laying out a plantation of white pine. Because of the fact that eradication and re-eradication of the border zones of white pine plantations is a necessity it becomes a matter of economic importance to make a careful selection of the planting site.

H. G. Strait, New York.

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RIBES ERADICATION SEASON IN MASS. OPENS ON APRIL 15.

The Ribes eradication season was officially opened in Massachusetts on April 15, by Messrs. Roop, Doore, and Perry at the Crane Estate in the town of Ipswich. The Ribes count for the day was: One wild gooseberry, apparently a "missed" bush from the 1923 control work. The purpose of the field work was not the eradication of wild Ribes, but involved survey work on the infection plot on the estate. The lone Ribes was merely "spotted" on the trail leading to the plot.

The field season was officially opened on the following day, April 16, when a few experienced men were reappointed, and a number of inexperienced men taken on for a few days intensive training. The first work involving the removal of wild Ribes was performed on April 26 in the Southeastern Massachusetts district, and on April 29, in the Hampden-Hampshire district. In the other districts in the State, it was necessary to postpone initial work until May on account of the protracted cold and rainy weather.

C. C. Perry, Mass.

SCOUTING AND RIBES ERADICATION AROUND THE FOREST
SERVICE NURSERY AT PARSONS, W. VA.

The preliminary scouting for Ribes around the Forest Service Nursery at Parsons was carried on by the writer in August, 1928, and written up in the October, 1928, News Letter.

The control area presents diverse conditions, ranges in altitude from 1,650 to 2,500 feet, and includes a part of the town of Parsons and the village of Bretz, Tucker County, with their houses and gardens and pastures, as well as cut-over land and true forests of hardwoods on the steep slopes of Turkey Knob and Fork Mountain. While white pine is present in small quantities in the forest, the protective work was carried on and the control area established for the purpose of protecting the white pine in the nursery.

While the control area was originally conceived as 1,500 feet around the nursery, this distance was extended to 2,000 feet to include very rocky steep hillsides on Turkey Knob which overlooked the nursery.

Beginning on April 11th of this year, the writer, with the help of one assistant, destroyed the Ribes in the control area. Those areas indicated as having Ribes in previous scouting, as well as other Ribes areas located this spring, were worked by a two-man crew which stripped the areas, using a paper trail to make the lines.

There seemed to be no definite relation between character of site and presence or absence of Ribes. While Ribes might be located in one woodlot, the adjoining one might be found completely free of them. One orchard had Ribes; all others were found free. Fence lines were worked closely based on New England experience. However, in only three cases out of a large number of fence lines examined were Ribes located. Wooded rocky slopes and particularly rocky ledges and outcrops were found to be likely habitats. Rhododendron thickets among hardwoods, however, proved poor hunting grounds for the crew. no Ribes being found in this latter type.

Particular note was made of the large number of this year's seedlings of the wild gooseberries which were found beneath old bushes. Most of these were less than an inch in height, having two primary leaves and one secondary leaf. This would indicate the necessity of reworking the area within a few years for missed bushes and small bushes which have sprung up.

In all, over 3,100 wild Ribes were located and destroyed, all of them being the prickly-berried gooseberry, R. cynosbati. Cultivated Ribes had previously been located at nine gardens, while one additional one was found this spring. Six owners of these bushes had already destroyed the plants during the winter or spring prior to our eradication work. Cultivated bushes in three gardens were destroyed this spring. Through either the owners' efforts or our work all the cultivated Ribes have been destroyed except at one place. Not a single European black currant, R. nigrum, was found within one mile of the nursery though one cultivated American black currant, R. americanum, was located and destroyed. The work this spring was completed April 24th.

Roy G. Pierce

DORCHESTER, N. H. APPROPRIATES FOR BLISTER RUST CONTROL

In the February, 1928, issue of the Blister Rust News, we published an interesting letter on the distressing financial situation in the town of Dorchester, N. H., as disclosed when the town contemplated an appropriation for blister rust control. At the time the letter was written (Jan. 8, 1928) it was stated that no one in the town was interested in raising funds for Ribes eradication as it would mean a higher tax rate, a thing the whole town was united on to prevent if possible. The tax rate in the town was already 14 cents per \$100.00 valuation and a \$400 appropriation for blister rust control would raise it to 18 cents per \$100.00.

This year, however, the unexpected has happened. According to Agent T. L. Kane, the town has appropriated funds for the control of the white-pine blister rust. We are glad that Dorchester has decided to protect its white pine assets.

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RIBES ERADICATION IN MARYLAND

A letter has just been received from Mr. Karl E. Pfeiffer, Assistant State Forester of Maryland, concerning some Ribes eradication work which has been carried on since 1922 in Garrett County, Md. He writes as follows:

"I have been planting trees on the property of Mr. F. F. Nicola in Garrett County every year since 1922, and over the area planted we have been eradicating the currants and gooseberries. We cover about twenty-five acres every year and the areas already eradicated have been gone over once or twice since then for the recurrence of the Ribes."

In this connection it might be worthwhile to note that no blister rust has ever been found in Maryland, though it is not improbable that some of the spores which were distributed over southern Pennsylvania in 1927 overstepped the boundary line and fell in the State of Maryland. The idea of destroying the currants and gooseberries before the disease has affected the trees is a very good one and will probably repay the owner many times.

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PLANNING AND CONDUCTING EXTENSION CAMPAIGNS

This is the title of a recent circular, No. 58, written by Mr. H. W. Hochbaum of the Office of Cooperative Extension Work and published in December, 1928. It is believed that this publication would be especially desirable to the blister rust workers in the Lake States and in the far West, though there is information in it which could probably be adapted by our men in the North-eastern States. Copies of this circular can be secured by writing the Director of Information at the Department of Agriculture, Washington. The circular is well illustrated with cuts, posters, stickers, cartoons, etc.

R. G. P.

PROTECTING HEARTS CONTENT FROM THE BLISTER RUST

Is there anyone who, at one time or another, has not wished to satisfy some desire to his heart's content? One such desire of mine has been to see and feel and roam about a bit of the primeval forest which was once so extensive in these eastern States and this longing has been fulfilled just recently at Hearts Content.

Hearts Content is the name of a tract of virgin forest recently acquired by the Forest Service in the Alleghany National Forest in Pennsylvania. There are approximately 100 acres of this growth of original white pine, hemlock and hardwoods which have been retained as a monument to the former virgin timber which succumbed to the ax and saw. Many, if not most of the trees are over 100 feet tall and have diameters of 4 feet or more. Ring counts on stumps in an adjoining area where logging is now in progress show ages as high as 185 years. Special orders filled from some of this neighboring timber called for pieces 72 feet in length. Hearts Content could easily comply with such demands. It cost the Government \$800.00 an acre to purchase this tract and I should judge this was a bargain price.

Obviously, Hearts Content is a valuable tract of timber and the Forest Service is taking every known means to safeguard and preserve it. One of the problems is blister rust and it became my privilege to make the pre-eradication survey to determine what should be done to suppress the disease.

Happily no rust has been found so far on pine in the Forest. I believe the same is true of the disease on Ribes but of this I am not positive. It is certainly fortunate, however, that blister rust is not established locally at Hearts Content. It is fortunate because the abundance and location of Ribes in certain sections indicated that much havoc might have resulted had the disease gained a foothold.

The situation in this region with respect to Ribes differs from anything previously experienced by this writer. Hearts Content is the sole remaining parcel of virgin timber and is a fair representative of the original wooded growth of this region. Logging operations which are terminating this year on adjoining areas to the north and east have been in progress on other surrounding areas for the past ten years. The entire surrounding areas therefore are made up of slash or of areas which have passed through slash and are now in brush or young hardwoods.

In the virgin timber of Hearts Content there are no Ribes. Dense shade over a long period may be the reason for this condition. In the slash areas which have been opened less than one growing season there are no Ribes as yet. In slash areas which have been opened during one growing season there are scattered small gooseberries, R. rotundifolium. This is the only wild species so far located. In slash areas where logging had terminated two and three years ago gooseberries are abundant and usually abnormally so. Where logging has been completed five and six years the bushes are plentiful but larger and far less numerous than in the two and three year old slash. Brush growth is gaining the ascendancy here and apparently is driving out the Ribes. Areas

which were logged 8 and 10 years ago have now reached the young hardwood stage and no Ribes were found in them except where openings have been made more recently by the removal of ties and poles.

The conclusion seems inescapable that logging operations and the subsequent regrowth of wood in this region are two big factors influencing the Ribes content. Just recently a crew has finished eradicating the Ribes in a protective zone around the tract and there is good reason to expect that Hearts Content will be spared attack from blister rust.

May 14, 1929

W. J. Endersbee, Mass.

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DISEASES OF FOREST AND SHADE TREES

The Office of Mycology and Disease Survey of the United States Bureau of Plant Industry, has recently issued Supplement 65 of the Plant Disease Reporter entitled "Diseases of Forest and Shade Trees, Ornamental and Miscellaneous Plants in the United States in 1927. December 31, 1928". Of particular interest to our men is the "Distribution of Chestnut Blight" found on pages 406 to 408, and the map showing the regions infected with blister rust at the end of 1927, found opposite page 403. A great number of other hosts than chestnut and white pine are also cited with the diseases which have been found on them in 1927.

I am informed that a limited supply of this Supplement 65 of the Plant Disease Reporter is available for distribution.

R. G. P.

BEAVERS LIBERATE WHITE PINE

We hear more or less about the damage beavers do, both in the destroying of trees for their food and shelter and in the killing of other trees by flooding, but it's an ill wind that blows no good, as the saying goes.

Two or three years ago a family of beavers established their residence in the deserted village of Cork Center. This thriving village of a century ago has long since been given over to pine, alder, poplar, and Ribes. The last three mentioned had been doing nicely until recently. First an invasion by the "Ribes Hounds", and then the homesteading of the beavers changed things. The pines in this area had been leading a "Satan and deep sea" existence between the blister rust and suppression by the poplar and alder, but now the tables are turned. The pine is coming into its own and the Ribes, poplar and alder are having their troubles. The Ribes weren't able to stand the competition with the "Ribes Hounds" and the beavers are cleaning out the poplar and alder, thus liberating the seeding in from the old trees to the westward. It's a long worm that has no turning.

J. W. Charlton, New York.

1928 INSPECTION OF EARLY MINNESOTA INFECTION AREAS

Continued.

In the March issue of the News Letter were given the results of a survey of three of the early Minnesota infection areas, made by Mr. S. B. Andrews from August 6 to 11, 1928. The data on the Lawrence Creek Area is here given to show the spread of the rust on pines where no eradication work has taken place.

Lawrence Creek Area:- One mile west by north of Franconia, Chisago County, Location T. 33N. R. 19W., in Sections 2 and 3.

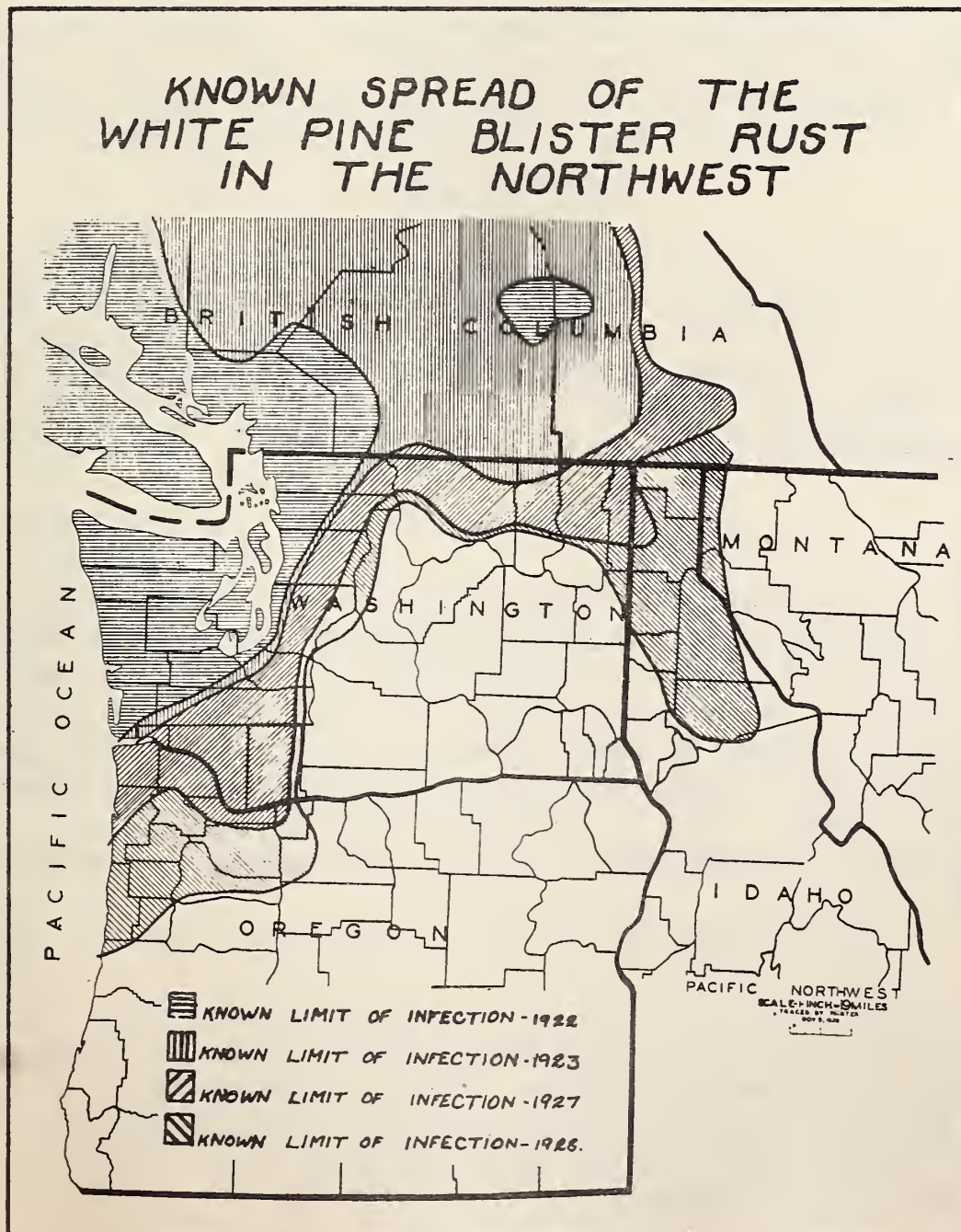
- a. History: This is a comparatively new infection area, infections having been reported for the first time in 1919. (Edit.- in 1919 only 1 pine was found infected and this tree was destroyed. Scattering Ribes were also reported present in the immediate vicinity of this area. No attempt was made at Ribes eradication.) There is considerable pine through the area, and Ribes are abundant also. The survey of 1925 showed 24% of the Ribes rusted and 25% of the pine infected (mostly reproduction). In 1927 practically all of the Ribes were heavily infected and in the pine-infection plot established in 1926, 12% of the pine were diseased.
- b. Survey 1928: Rust on Ribes was found on practically every bush. The pine in the area has one very bad infection center and the infection decreases as the distance from the center of infection increases. By a comparative count it was determined that 28% of the pine in this area are infected. On the plot established in 1926 there were 15 dead or nearly dead young seedlings, due to the work of C. ribicola.
- c. Conclusions: This is a bad infection area and the rust has succeeded in gaining supremacy. An increase in the per cent of pines infected from 12% in 1927 to 28% in 1928 is convincing evidence that the spread of the rust in this area is increasing at an alarming rate. Already the disease is a limiting factor to the pine growth and if allowed to continue will lead to destruction of a very good reproduction stand of white pine. At present it would be very difficult to eradicate the disease from this area and if present conditions continue it will be impossible.

BLISTER RUST CONTROL IN THE WEST

By G. B. Posey

The blister rust was introduced in the West about 1910. Indications are that it became established from infected white pines which were imported from France and planted at Vancouver, British Columbia in 1910. It was first found there in 1921 and later during the same season it was also found at several widely separated points in western Washington. Scouting during the following years showed the rust to have spread rapidly. Its spread towards the north was more rapid than towards the south. (See map below showing known distribution at different periods since 1921.)

Edit:-Mr. Posey has made a comprehensive statement concerning the blister rust control program in the West. This appears in the Report of the Proceedings of the Fourteenth Annual Blister Rust Control Conference, pages 67 to 71, which may be secured by writing the Washington Office.



WHITE PINE

White pine long has been and still is, in universal demand for its lumber. It is one of our native trees with a marked adaptability to growth in a variety of soils and therefore it takes a leading place among forest crops.

Soil Sites:

White pine is found growing in nearly all sorts of situations except in extremely wet soils. This does not mean that it grows equally well anywhere because the better the soil is the faster the growth will be. It is usually found and seems to prefer well-drained soils and reaches its best development in such situations. Here in Berkshire County Mass. we find it mostly on the first and second benches above the stream valleys where most of the meadow land is now located.

Size:

White pine, as regards size and rate of growth, compares favorably with every other eastern tree and far exceeds most of them in this respect. It reaches its best merchantable size in about fifty years. Its average rate of growth is about a foot a year but may be much more on favorable soils.

Fire:

White pine is susceptible to fire and particularly when young. Even a slight ground fire is sufficient to kill the young trees. Older pines though not always killed by fire are so weakened that they are liable to attack by several kinds of insects and diseases. Care, therefore, must be exercised to keep fire out of pine stands.

Insects:

White pine in a healthy condition is subject to serious injury from very few known insects. The only serious pest of this sort is the pine weevil which attacks the main shoots and causes a crooked stem. Such infected shoots should be cut off and burned during the summer months when the grubs are active. Pine in mixture with other species is less liable to injury from this pest. The pine aphid is a sap-sucking insect which occasionally attacks the tree but seldom does permanent injury. This is sometimes called the cottony aphid because it secretes a cottony substance. A spray of kerosene emulsion will control this insect.

Disease:

White pine is subject to attack from blister rust, a disease which is spread from currant and gooseberry bushes. Since this disease only comes from these plants and does not spread from pine to pine, it can be easily controlled by destroying all these bushes in and near the pine lots. Every pine owner should practice this control measure.

Uses:

White pine has many well known uses. Probably the best known is for building materials of all kinds. Other uses are laths, cabinet material, pattern stock, interior finish, wooden ware, matches, flagpoles, masts and boxes.

Care of Pine:

White pine should be encouraged either in pure stands or in mixture with other species. Pine owners will find that they can improve this crop by weeding undesirable trees and thinning the inferior pines just the same as they might weed and thin their vegetable garden. All these undesirable trees tend to hold back or choke out the pines. The quality of pine lumber can be improved by pruning the lower branches up to 16 feet. Such treatment is perhaps most practical only on the best trees of the stand.

W. J. Endersbee- Mass.

Extract from the "Berkshire Farmers' Bulletin", Vol. 14, No. 3, March, 1929.

SEVEN MISTAKES

"There are seven mistakes of life which many of us make," said a famous writer, and then he gave the following list:

"The delusion that individual advancement is made by crushing others down."

"The tendency to worry about things that cannot be changed or corrected."

"Insisting that a thing is impossible because we ourselves cannot accomplish it."

"Refusing to set aside trivial preferences in order that important things may be accomplished."

"Neglecting development and refinement of the mind by not acquiring the habit of reading."

"Attempting to compel other persons to believe and live as we do."

"The failure to establish the habit of saving money."

(Extract from the "Berkshire Farmers' Bulletin", Vol. 14, No. 1, January, 1929.)

RAILWAY COMPANIES COOPERATING IN BLISTER RUST
CONTROL IN MASSACHUSETTS

In connection with the maintenance of the officially designated blister rust control area towns in Massachusetts, the several railway transportation companies in the State, namely, The Boston & Maine R. R.; The New York, New Haven & Hartford R. R.; The Boston & Albany R. R.; and the Receivers of the Central Vermont Railway, have all been most willing to cooperate with the Massachusetts Department of Agriculture in posting notices relative to the orders prohibiting the further planting of Ribes in these towns.

These posters read as follows:

N O T I C E

D O N O T P L A N T C U R R A N T S
O R G O O S E B E R R I E S
I N T H I S T O W N

* * * * *

For the protection of the white pine in this town against the white-pine blister rust, the further planting of currants and gooseberries has been prohibited under the authority of Section 27, Chapter 128 G. L.

DEPARTMENT OF AGRICULTURE

136 State House
Boston

A. W. Gilbert
Commissioner

This cooperation on the part of the railway companies is appreciated and doubly so, because there is an active demand for such space as the companies have at their disposal for the posting of their own official notices. In recent years these companies have found it necessary to restrict the use of the station notice boards almost entirely to their own business posters. The fact that they have been willing to make an exception and allow the posting of blister rust notices is indicative of an interest in the problem of blister rust control. In every instance, the railway companies dispatch these notices directly to their station agents with orders to post the same for a definite period in the spring of the year.

This year, these four companies have been instrumental in placing 332 of these posters in stations in the restricted towns on their lines. If only 30 persons read each poster, approximately 10,000 people will have received information about blister rust, although in this instance the information is necessarily limited in character.

In addition to the posters placed by the railway companies, 450 copies were sent to the Postmasters and 200 copies to the Town or City Clerks in the 200 townships in Massachusetts which have been designated as blister rust control area towns.

C. C. Perry, Mass.

O F F I C E C O M M E N T

PROMPT HANDLING OF LETTERS

MEMORANDUM FOR HEADS OF OFFICES

Gentlemen:

The following memorandum, which has just been received from the Secretary, is self-explanatory:

"Paragraph 573 of the Administrative Regulations of the Department reads as follows:

'All letters requiring a reply, received in the Bureaus or referred to them by the Secretary, shall be answered within three days after their receipt in the Department. If for any reason a complete reply can not be made within that time, the letter should be acknowledged immediately, stating approximately when a complete reply will go forward.'

In case of letters for the signature of the Secretary, Acting Secretary, or other general officer of the Department, I understand that the three-day rule has been construed as meaning that letters shall be returned to the Secretary's File Room within that time. It has been my observation that a number of the letters coming to me for signature have been held in the Department for much longer periods than three days, and I shall appreciate your cooperation in helping to improve this situation. The prompt handling of mail seems to me a most important factor in the successful operation of any organization. It is recognized that in many cases it will be impossible to make a complete reply within the three-day limit, but in such cases an acknowledgment should go forward as outlined in Paragraph 573. Prompt attention is also requested in the case of letters originating in some other branch of the Department which come to you for concurrence."

I shall appreciate it if you will bring this memorandum to the attention of the members of your office, with the request that they cooperate to the fullest extent possible in carrying out the Secretary's instructions.

Very truly yours,

Wm. A. Taylor,
Chief of Bureau.

May 1, 1929

IS THE CHESTNUT COMING BACK?

While conferring with the Selectmen and Tree Wardens in his district, Agent Brockway (Massachusetts) reports that in two towns, namely, Franklin and Bellingham, the officials report that they know of at least a dozen chestnut trees in their towns, each of which produced from 20 to 75 chestnut burrs last fall (1928). These locations will be visited and an effort made to determine whether or not these particular trees have actually escaped the ravages of the blight.

* * * *

Note: In connection with the above, State Leader Perry tells of reading a very optimistic editorial in the October 20, 1928 number of the New England Homestead, entitled "Saving the Chestnut Tree", in which the idea was conveyed that the chestnut was coming back rather rapidly. The editorial was so emphatic that the occasion was taken to write to Mr. Gravatt of the Office of Forest Pathology for his opinion. In reply, Mr. Gravatt pointed out that the editorial was based on a statement about conditions in the vicinity of New York City and did not refer to New England as a whole. It is of interest to quote the following paragraph from a statement enclosed with Mr. Gravatt's letter acknowledging the inquiry from Mr. Perry:

"For a number of years after the chestnut tree in different localities were killed by the blight, the sprouts rarely reached a diameter of more than a few inches before they in turn were killed. Some sprouts are now attaining a much larger size and frequently are producing viable nuts before being killed by the blight. Other sprouts continue to grow and produce nuts in spite of the blight cankers on their stems. Just what will be the ultimate result of this struggle between host and parasite can not be definitely stated, though it is reasonable to expect that by selection among the seedlings growing from the nuts of the sprouts, a quick-fruiting, moderately resistant strain of the American chestnut finally will be evolved."

Mr. Gravatt also remarks in his letter dated November 26, 1928, that the Department is "interested in reports of resistant Asiatic chestnuts". He is "especially interested in any tall straight Asiatic chestnuts" and notes that "we are greatly in need of a tree which will produce telephone poles, even small size poles for country line telephone and light systems".

C. C. Perry, Mass.

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A M O N G O U R S E L V E S

Mr. S. B. Detwiler was welcomed back to the Washington Office on May 3, after an extended field trip in the Southwest.

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Mr. S. N. Wyckoff, Senior Pathologist in charge of the Western Office, together with Mr. G. B. Posey of this Office, Dr. Haven Metcalf and Dr. E. P. Meinecke of the Office of Forest Pathology, and Dr. J. S. Boyce, Director of the Northeastern Forest Experiment Station, left Washington early in May to inspect blister rust conditions in New York and the New England States.

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Agent S. H. Boomer of New Hampshire in a recent letter, gave the following interesting account of a visit from the above-mentioned party of pathologists:

"The party of pathologists were here yesterday (May 13) and we were favored with perfect weather and I think they spent an interesting day. It was very interesting and instructive for me. I learned about several diseases of red and Scotch pine, one being Cenangium abietis. A field trip with them is an education in forest pathology."

Mr. Herman J. Ninman, who has been in the Washington Office for several months writing up the reports on the Eau Galle demonstration area, left last week for his home in Madison, Wisconsin.

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Mr. Roy G. Pierce returned to Washington April 28th from a field trip to Parsons, W. Va., and the Shenandoah National Forest, Va.

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OBITUARY

Dr. L. H. Pennington died suddenly from heart trouble on the night of April 23d at Washington, D. C. He was on sabbatical leave of absence from the New York State College of Forestry where he had served for many years as head of the Department of Forest Pathology. At the time of his death, Dr. Pennington was completing a manuscript on the "Epidemiology of White-Pine Blister Rust" for the Office of Blister Rust Control. Dr. Pennington was loved and respected by all of his associates who extend their sympathy to his family in their bereavement.

Agent G. S. Doore's headquarters have been changed from Boston to Northampton, Massachusetts, effective April 22.

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Agent E. J. McNerney who has been transferred to the Plant Quarantine and Control Administration, dropped into the Washington Office the other day for a short visit.

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The annual spring tournament of the Department of Agriculture golf enthusiasts was held at the Washington Country Club on May 6th. Two of our hooked-club enthusiasts were able to qualify, namely, Messrs. H. P. Avery and J. M. Palmer. Thirty-six holes were played. Palmer and Avery, when asked what prizes they won, said that they had a very fine day and lots of exercise.

P U B L I C A T I O N S

Blister Rust

Hafiz Khan, A. A Preliminary Report on the Peridermiums of India and the Occurrence of Cronartium ribicola Fisch. on Ribes rubrum Linn. Indian For. 54: 431, pl. xxvi-xxxiii, Aug. 1928, No. 8.

Ribes

Caruthers, Robert S. A Scale for Measuring Areas of Ribes Leaves. Phytopathology, Vol. 19, No. 4, April, 1929, pp. 399-405.

White Pine

Endersbee, W. J. White Pine. The Berkshire Farmers' Bulletin, Vol. 14, No. 3, March, 1929, p. 6.

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BLISTER RUST NEWS



May, 1929.

June, 1929

Volume XIII

Number 6.

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
Office of Blister Rust Control



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E D I T O R I A L S T A F F

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister Rust Control
and the Cooperating States.

VOL. 13, No. 6

June, 1929.

IMPRESSIONS OF EASTERN BLISTER RUST CONDITIONS

By S. N. Wyckoff, Field Supervisor in charge of the
Western Office of Blister Rust Control, Spokane, Washington.

The opportunity to inspect blister rust and forestry conditions in New England and New York is very much worth while to any member of our western force. So far as the rust is concerned it is highly illuminating to observe its effect where it has been present over large areas for a considerable number of years.

In viewing these conditions and in properly evaluating them, one must constantly keep in mind the history of the disease in this region. It must be remembered that in many places local control followed the advent of the rust. This has resulted in the general appearance of pine infection, the results of which are apparent according to the severity of the infection and the time at which local control has been applied.

It is immediately apparent that the severity of pine infection is directly related to the Ribes population of each particular locality. It would seem almost possible to compile a fairly good Ribes map of this region from pine infection data alone. Certain parts of New England showed very spotty pine infection. This infection might be locally quite serious but did not extend over very large areas. We were told that in such localities the Ribes had not been originally very numerous and those which were present were fairly well concentrated in local areas. Very brief inspection of places within these localities where Ribes had not been eradicated showed this to be the case. In other parts of the general region pine infection was more uniform in extent and more uniformly heavy. This was where Ribes were generally numerous.

The three principal impressions to be gained by an inspection of blister rust conditions in the Northeastern States are: 1, the extreme severity of pine damage where the rust is not controlled; 2, the efficacy of local control as it is practiced in this region; and 3, the ability of a young stand of eastern white pine to efface the results of heavy damage after local control has been applied.

If anyone imagines that blister rust cannot severely damage white pine of merchantable size I would recommend a few hours spent on the Waterford, Vermont area. This area contains a stand of what was originally good saw-timber. It was subjected to infection from a block of cultivated black currants approximately a fourth of a mile away and from wild gooseberries, growing at the rate of 10 per acre, in close proximity to the pine stand. This stand will probably suffer a seventy-five to eighty per cent loss in trees of merchantable size by the end of the next few years.

The other side of this rather dark picture is to see the vigorous young stands of healthy white pine in areas where local control has been practiced. In this connection I should like to express my healthy respect for the high type of eradication work done by our eastern brethren. Where *Ribes* eradication has been done by properly qualified men the work is of an extremely high type.

In young reproduction stands which have previously subjected to infection but which have later been protected, the results of the infection were not apparent after a number of years. The infected trees died, were naturally or artificially removed, and their place immediately taken by new reproduction. This also is frequently the case with older stands. The most striking effect of the long standing blister rust infection at Kittery Point, Maine, now consists of several wood piles - the last remaining vestige of large pines which had been killed by the rust and were being utilized by the owners for fire wood.

(Extract from the "Western Blister Rust News Letter", May 15, 1929.)

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RHODE ISLANDERS VISIT YALE FOREST AT KEENE, N. H.

A party of Rhode Islanders including State Commissioner of Agriculture Harry R. Lewis; State Entomologist A. E. Stene; Director B. C. Gilbert, State Experiment Station; Professor H. W. Browning, Botany Department, R. I. State College; Superintendent Thomas G. Mathewson, Goddard Memorial Park, Warwick, R. I.; Superintendent E. C. Craig, Providence-Scituate Reservoir Division; and A. W. Hurford, State Agent, Blister Rust Control, visited the Yale Forest near Keene, New Hampshire on May 31 and June 1. The party made two field trips under the guidance of Professor J. W. Toumey, Forester in Charge, and saw many interesting white pine areas under different methods and stages of management.

The entire Rhode Island group expressed their appreciation of Professor Toumey's work in demonstrating that protected white pine under proper management is a sound investment. Professor Toumey stated that he practices blister rust control to the extent that he has the area scouted for *Ribes* about every ten years. From time to time areas were pointed out to the group where *Ribes* are apt to be more abundant than in other places.

The Rhode Island group returned to Providence by way of Petersham, Massachusetts, where a short conference was held with Mr. A. C. Cline of the Harvard Forest who gave the group valuable information on white pine management.

A. W. Hurford, R. I.

ERADICATION OF CURRANT BUSHES AROUND STATE NURSERIES

We have just started the eradication of black currants within one mile of Horseheads State Nursery at Horseheads, Chemung County, New York, and of other species of *Ribes* within 1500 feet. It so happens that a distance of one mile from this nursery covers the entire incorporated village of Horseheads, which has a population of 3,000. We are finding red currants to be rather plentiful in the gardens, also black currants (*Ribes nigrum*) and flowering currants (*Ribes odoratum*) are very numerous in front-and back yards.

There is a good sized creek flowing along side of the nursery, in some places as close as twenty feet. Along the banks of this creek there are areas of from one-fourth to one-half of an acre in size, on both sides of the creek, which are completely covered with wild black currants, (*R. americanum*) There are dozens of such areas along these banks.

We are having very good success so far in getting permission to remove cultivated bushes from gardens. About the only unpleasant reception we have had to date was that of a police dog who made a lunge toward me with his mouth wide open. He did no harm but lucky for me his master was there and 'I don't mean maybe'.

The Department has another new nursery at Painted Post, Steuben County. *Ribes* eradication is only necessary along the border of a thick woods on one side of this nursery, there being approximately one mile of open fields on the three other sides.

N. H. Happ, New York.

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BLACK CURRANT ERADICATION IN RHODE ISLAND

Six weeks of cultivated black currant scouting has brought about the eradication of 1700 cultivated black currants by the State crew. Little trouble has been experienced so far and it is suprising the cooperation it is possible to obtain once the public is informed through advanced education activities. We have nineteen more weeks ahead of us this season, most of which time will be spent on black currant work. The men are rapidly becoming "Ribes hounds" as they are beginning to smell *Ribes nigrum* before seeing that host plant.

The school superintendent of Johnston, R. I., was so interested in the work of the scouts that he asked the foreman for 50 blister rust circulars to distribute to his schools.

A. W. Hurford, R. I.

SIGNS OF ACTIVITY IN OREGON

Goodding started his field work in Oregon during the month of April, scouting for blister rust in the Rhododendron and Mt. Hood regions, studying the infection area at Rhododendron, and making a pre-eradication study in the Metolius River region and in the Peavy Arboretum.

In the pre-eradication studies and in the work on the infection area at Rhododendron, he was assisted by H. N. Putnam. They also scouted for infection in the Wind River and Guler regions in Washington. Several good associations of pines and Ribes bracteosum were found but no infection was located. Of special interest is their tally of cankers in the Rhododendron region where 60 incipients of 1927 origin were counted on one small pine.

Goodding has located heavy infection on white pine near the mouth of Still Creek, Mt. Hood National Forest, Oregon. While he has not had time for a complete inspection, he believes that almost 100% of the pines are infected for 100 yards back from the stream. Many of the trees have four or five fruiting cankers.

(Extract from the "Western Blister Rust News Letter", May 15, 1929.)

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LARGE PINES INFECTED WITH BLISTER RUST

Additional Notes from New York

Speaking of cankers on large trees, with reference to a recent article in the Blister Rust News, here are my two.

The first, is a large canker on a 15 inch tree, said canker within reach from the ground. The canker is now 30 inches by 18 inches. The tree is 15 inches D.B.H. and at the canker is $15\frac{3}{4}$ inches in diameter and only $11\frac{1}{2}$ inches at right angles to the canker because of the flattening effect. This canker is notable for its size and for its position low down on a good-sized trunk. It came in on an adventitious shoot at the center of the canker. A photograph of this canker was shown in my recent article on "White Pine Blister Rust in New York", Phytopathology, March, 1929, page 276. The tree was growing on the Horicon Plot, Horicon, New York.

The second canker is shown (to a degree) in the accompanying photo. This was reported in 1924 in my annual report to Dr. York. The tree was then $31\frac{1}{2}$ inches D.B.H. and 29 inches at the canker. The tree was 65 feet tall (as I remember it, for my records do not give the height, as they do the diameters). This tree is on the Goff lot, in one of my experimental plots, near Deerhead, New York. The canker had come in from a small branch and was progressing slowly in the tough bark of the trunk. The photograph shows Ed Littlefield pointing to the location of the canker.

Dr. W. H. Snell, New York.



LARGE WHITE PINE AT DEERHEAD, N. Y., INFECTED WITH BLISTER RUST
The pine is 31.5" D.B.H. and 29" in diameter at the canker.



ERADICATION SEASON IN MAINE OPENED MAY 6TH

The Ribes eradication season began in Maine on May 6th. The work this year is to be conducted in fifty-seven towns and cities in the twelve southern counties. of the State. At the town meetings last March these towns raised \$9,775.00 for blister rust control work, fourteen of the towns conducting control work, for the first time. One town, Hiram, in Oxford County, made an unsolicited appropriation of \$200.00 for re-eradication. (This was a pleasant surprise we assure you, as Agent Curtis completed the initial eradication work in 1928 and had not asked for further town cooperation this year.)

Seventeen temporary agents will be needed to carry on the necessary scouting and educational work in these fifty-seven towns. Twelve men began May 6th, the other five men coming onto the job later in the month and early in June. About sixty more men will be employed as town foremen during the season, paid from town funds. They will assist the pine owners in eradication.

Bar Harbor, the famous summer resort on Mt. Desert Island, again raised \$2,000 for blister rust control work, which will be carried on by two five-men crews under the direct supervision of Agent Lambert, who returned to Maine May 1st from St. Paul, where he was doing quarantine work.

The above figures may be increased by a few hundred dollars a little later as there are two localities to hear from. Compared with 1928, the number of towns allotting funds this year will be less by two or three, and the amount of town moneys appropriated will be less by several hundred dollars. With better weather than we experienced in 1928, the 1929 season should, however, compare very favorably with any of our best years.

W. O. Frost, Maine.

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BAR HARBOR ME. COOPERATES IN BLISTER RUST CONTROL

According to a first column article in the Bar Harbor Times for May 15, Agent Arthur J. Lambert was to begin eradication work at the Pot and Kettle Club on May 13. The work will extend until mid August.

Cooperating with the State, the Town of Bar Harbor appropriated \$2,000 for pine blister rust control at Town Meeting last March and this money is now being expended on the work.

The news item stated that Mr. Filler in charge of blister rust control work in the East, had just arrived in Bar Harbor to confer with the Superintendent of the Acadia National Park concerning plans for cooperative eradication work on Mt. Desert Island.

NEW USE FOR DIAMOND SHAPED BLISTER RUST POSTERS

This one on me is too good to keep. It is almost as good as the time I introduced myself as the Blister Rust Agent and the pine owner told me he didn't want any".

Recently while checking a scouted pine area I was attracted by the apparent noise of some animal crashing through the brush. It proved to be a more or less friendly Scotch Collie, but this was quickly followed by more brush crashing and this time it was an unfriendly Irish farmer. He requested, with characteristically picturesque invectives, information as to just what I was doing on posted land. I had not noticed any no-trespassing signs when I entered the property, but I explained who I was and what I was doing. Mr. Owner calmed down on the trespassing and then proceeded to tell me what he thought of blister rust. On finding a few trees dying with it he became almost friendly, helped me check, shook hands, and invited me to come again.

Subsequent inquiry revealed the information that he had been away the day the foreman came so the foreman had pulled the few bushes there were in a fence row, put up two of the diamond shaped posters and had gone his way. Mr. Owner on returning saw the posters and later, on seeing the agent enter the property had come tearing down through the woods to inform the agent that the land had been posted by the State, and that he'd be something or other if he was going to have anybody come into that pine spreading currants or gooseberries.

New York Agent.

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A. W. HURFORD OF R. I. GIVES INTERESTING RADIO TALK ON WHITE PINE

The State B. R. Leader in R. I., spoke over the Providence Shepard Stores Broadcasting Station W E A N at 1.20 P.M. Friday, June 7th. The subject of his talk was "Protecting Our White Pines" and it dealt with blister rust control, especially the cultivated black currant menace. An appeal was made for the cooperation of cultivated black-currant owners in the eradication of these host plants.

Among the results of the radio address were the following: A blister rust foreman reported meeting four people who said "Here are the bushes for you, we heard the radio talk".

The following letter was received by Mr. Hurford concerning his talk:

"Heard you this noon over the radio. Very good. Your voice is unusually clear. Anytime you are down this way, we would be glad to have you drop in for lunch. We are most always here, but if you wanted to play real safe, you could call on the telephone and see if we are about. We have our 15 acres of pine in Dewildt did the job. Next year we'll do more."

Sincerely,

(Signed) Gorton Lippitt.

BLACK CURRANT CONSIDERED SERIOUS MENACE BY N. Y. CONSERVATION DEPT.

The New York State Conservation Department has issued a plea for the preservation of the white pine against its most deadly enemy, the blister rust, a fungous disease which in the due course of time kills the tree, according to the press of May 26. The report says: "The disease is carried to the white pine from currant or gooseberry plants. Of these the cultivated black currant is its worse foe Henry L. McIntyre, supervisor of forest pest control in the Conservation Department, recently stated that the statistics of the United States Department of Agriculture, Bureau of Plant Industry, showed that if a price of \$1.25 were set on all cultivated black currant bushes in the United States, the total value of all the bushes would be around \$898,000 while the value of the merchantable five-needle pine timber is placed around \$548,250,000. Such a statement, he pointed out, upholds the wisdom of the laws prohibiting the growing, propagation or possession of the cultivated black currant.

During the past year the New York State Conservation Department initiated a systematic survey to determine the black currant situation in towns where the work was started. It was found that bushes were so commonly distributed that there was not a place in the towns where a plantation or stand of white pine could be grown without being seriously exposed to blister rust infection. According to Mr. McIntyre, the blister rust program in the State has been closely confined to the important white pine sections."

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BLISTER RUST DEMONSTRATIONS COMVINCE

In one town where I have tried for cooperation for two years without success, I took into the field one of the "unconvinced" and showed him a heavily infected lot. He was not at all interested when we started but after his return home he said:

"Well, we learn something each day. Even youngsters can teach us old fellows something. I can tell you, young man, that I figure my time this morning more than well spent."

J. MacG. White, Maine.

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ESSEX COUNTY, N. Y., ACQUIRES ITS SECOND FOREST

Essex County, N. Y., has acquired another county forest by purchasing 516½ acres of the John E. Milholland estate in the town of Lewis. This land is located about 3 miles north of Elizabethtown at the junction of the main highway to Montreal and the road to Lake Champlain. It lies in what the State Conservation Department classes as the best white-pine territory in New York. Planting will begin this year, with the expectation that it will be completed in 1930.

(Extract from the "Forester Worker", March, 1929.)

Edit:- Page the Blister Rust Control Agent in Essex County. Has this new County forest been protected from blister rust.?

NECESSITY FOR RE-ERADICATION

During the many years in which the control of this serious disease of white pine has been carried on, not only in New Hampshire but in 16 other States as well, experience has indicated that it is not possible, in all types of woodlands, to secure complete and final eradication of those plants which spread the rust. Even the most carefully trained and conscientious crews miss a bush occasionally, in most instances owing to its small size, or in pulling plants of skunk currant, whose roots are brittle, broken-off shoots are bound to occur. Furthermore, seed which is in the ground at the time of the first examination is likely to germinate and ultimately develop. Investigations by the Federal Office of Blister Rust Control indicate that often ground apparently free from all currant or gooseberry bushes, will after logging operations, show new growth of these bushes.

In view of the fact that since the control of blister rust is the first attempt in the history of the world to destroy any plant injurious to an important timber tree, it naturally follows that complete eradication, the first time over the ground, is difficult as there has not been any previous experience to serve as a guide.

Realizing this fact many towns and cities, and quite a few private owners have, after a period of five or more years, commenced a re-examination of their woodlands. The first of this work was undertaken in 1925, and at the termination of the season of 1928 re-eradication had been conducted over acres aggregating 230,015 acres, an average of slightly more than four bushes to the acre being found. Careful investigations brought to light the fact that a large percentage of bushes found the second time over had developed from seed.

Today, five towns and cities have completed re-eradication and 21 have undertaken this second examination.

It is essential that re-eradication be conducted through State, town and city agencies, since, with but few exceptions, individuals cannot be counted upon to pursue this work.

(Extract from Biennial Report of the N. H. Forestry Commission for the two fiscal years ending June 30, 1928. Dec. 1928, pp. 184 and 185.)

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THANKS TO THE FIELD MEN

The Office wishes to take this occasion to thank the eastern field employees for their prompt replies to the memorandum requesting an estimate of June expenses, for use in making final allotment of the balance of our funds for this fiscal year. Cooperation of this sort is sincerely appreciated.

COOPERATION AGAIN!

Apropos of my comment in a recent issue of the NEWS regarding the posting of notices relative to the planting of Ribes in blister rust control areas, the following letter is indicative of the cooperation which we occasionally receive:

TOWN CLERK'S OFFICE.
ERVING, MASS.

April 15, 1929.

Department of Agriculture,
State House,
Boston, Mass.

Gentlemen:

On presenting the copy of "Notice - Do Not Plant Currants or Gooseberries in this Town" at the Selectmen's meeting Friday night, all thought it advisable to request your department to send five or six copies for posting in the three villages of this town From No. 1714.

Thanking you in advance for complying with this request,
I am

Very appreciatingly yours,

(Signed) Harry N. Blackmer,
Town Clerk.

In sending these notices to the Town Clerks in the control area towns, it was our thought that they should be posted in the Town Hall, but Town Clerk Blackmer chose to exceed our desires in the matter five-fold.

C. C. Perry, Massachusetts.

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BLISTER RUST PHENOLOGY

Data from Maine

Uredinia were found on skunk currants, in the Town of Belgrade, Kennebec County, on May 9, also on gooseberries in Skowhegan, Somerset County, on May 20.

J. MacG. White, Maine.

Rust Development in the Coast Region of Washington

The backward spring of 1929 is well shown in the development of blister rust on Paschall's Ranch near Bremerton, Washington. Mr. Paschall, who is very much interested in blister rust, makes almost daily observations on the progress of the disease each year.

Rust Development in the Coast Region of Washington Cont.

In 1928, the first aecial spores were liberated on March 19 and the uredinial stage was observed on May 11. In 1929, aecial spores started shooting on April 7 and the first uredinia were observed on May 22 when a light but unmistakable infection showed on Ribes beacteosum, R. lacustre, and R. sanguineum.

(Extract from "Western Blister Rust News Letter", May 15, 1929)

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CLASSIFYING CULTIVATED RIBES AS TO CONDITION

Occasionally in conducting control work, the question of the value of cultivated Ribes is stressed by an owner who may be objecting to the removal of such plants on his property. The strenuousness of the objections usually varies inversely with the apparent value of the Ribes. Experience has shown, that as a rule Ribes are not highly prized or at least it would not appear that they are if we can judge by the amount of care apparently given to them. In other words, it is our experience at least, that cultivated Ribes are not generally in what might be called "A No. 1 condition."

In order to confirm this impression, the records of the Ribes removed in Massachusetts during the field season of 1928, have been analyzed to show the relative condition of the plants. For the purpose of classifying Ribes in this State, the following scale or code is used by the field men:

Class 1 Fruiting plants, four years or older

- (a) In good state of cultivation.
- (b) In sod and uncultivated but not entirely neglected.

Class 2 Fruiting plants two to four years old

- (a) In good state of cultivation.
- (b) In sod and uncultivated but not entirely neglected.

Class 3 Fruiting plants, run down depreciated by age or lack of recent care.

Class 4 Plants in sod and dying of neglect.

Class 5 Young plants, not fruiting.

Class 6 Plants entirely neglected, worthless.

On the basis of this classification scale, the total number of red or white currants; black currants; and gooseberries have been tabulated. It will be noted that flowering currants have not been included in the tabulations for the reason that they are seldom prized for their fruit and since they are usually found in lawns as ornamentals rather than in gardens.

During the field season, 28,443 plants in these three groups were removed. In the following table (Table 1) is shown by the use of percentages only, the relative number of plants in each group and in each condition class previously referred to:

Table I

Kind	Total No. Removed	Classification by Condition in Percentages							
		1a	1b	2a	2b	3	4	5	6
Red or white currants	18,628	24.0	14.8	2.7	3.7	14.4	25.4	1.5	13.5
Black currants	3,426	28.1	24.7	7.2	3.0	12.5	12.6	2.2	9.7
Gooseberries	6,339	27.9	17.5	6.0	5.9	11.7	12.6	2.4	16.0
All varieties	28,443	25.3	16.6	4.0	4.1	13.6	21.0	1.8	13.6

In Table II below, these percentages have been further combined or grouped into three relative condition classes; namely good condition, fair condition, and poor condition. In arriving at these latter figures, Classes 1a and 2a and Class 5 have been grouped as "Good". Class 5 plants were included for the reason that this class represents young plants, under two years old which if classified further would undoubtedly be designated as in good condition. Classes 1b and 2b have been grouped as "Fair". Classes 3, 4, and 6 have been designated as "Poor".

TABLE II

Kind	Condition Groups - In Percentages		
	Good	Fair	Poor
Red or white currants	28.2	18.5	53.3
Black currants	37.5	27.7	34.8
Gooseberries	36.3	23.4	40.3
All varieties	31.1	20.7	48.2

In words then, these records indicate that on the basis of the total number of fruit-producing Ribes, removed in Massachusetts during the field season of 1928, less than 1/3 were reported as being in good condition; 20% might be considered as in a neglected state of cultivation, but possibly in "Fair" condition; and nearly 50% were either in poor condition or worthless.

Looking at the different variety classes, it would appear that black currants and gooseberries are generally in better condition than red or white currants. This seeming status may, however, be due to the fact that the total number of red and white currants far outrank the other varieties. In fact, there were twice as many red and white currants as black currants and gooseberries combined. At any rate, the figures do not show a sufficiently striking difference between varieties to be of importance.

From the above considerations, it would appear that the general impressions gained from intimate contact with the field work are borne out by the actual figures on record. This I believe is of importance in any consideration of possible value of cultivated Ribes as compared with the value of white pines growing in the same locality; two-thirds of the plants not classifiable as in good condition.

C. C. Perry, Mass.

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INTERESTING CIRCULAR ON FORESTRY AVAILABLE

Mr. W. N. Sparhawk has written an interesting circular entitled "Why Grow Timber" which I think every blister rust agent would enjoy reading. Mr. E. C. Filler writes as follows concerning this circular: "Over the week end I read several forestry bulletins. I was especially impressed with Sparhawk's new circular on 'Why Grow Timber'. I think *** every agent should read this Miscellaneous Publication #26. It is chuck full of meat. ***. The description of conditions in China is especially impressive. It drives home the need for adequate protection." This circular may be obtained by writing to the Director of Information, Department of Agriculture, Washington.

R. G. P.

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DO RIBES AFFECT COWS?

Mr. C. of Skowhegan, Maine, when interviewed by a blister rust control agent made it quite plain that he did not believe in blister rust, but rather suprisingly he agreed to cooperate. On the morning following this interview the town foreman reported for work. Mr. C. went with the foreman but continually complained. During the course of conversation the reason for his decision to cooperate in Ribes eradication was made plain. He had read in a paper where some cows in Massachusetts had browsed gooseberry bushes and their milk tasted. Immediately, he decided to remove all gooseberry bushes from his pasture in order to protect his cows, but he was not concerned about protecting his pine in this manner. However, he did a very good job in removing the bushes from his pasture.

John MacG. White, Maine.

PRUNING FOR CLEAN LUMBER

It is only within a few years that the value of pruning forest trees for growing clear lumber has received recognition as good practice. In fact it has been necessary for trees correctly pruned to actually produce clear lumber in order to disprove statements that the pruning of live limbs on white pine always results in loose knots or pitch pockets. Such statements have had some foundation where pruning has been incorrectly or poorly done, usually with an axe, a tool which should never be used in work of this kind.

A pair of double edge pruners with handles two or three feet long will give excellent results, with the added advantage of handling easily and quickly. A pruning kit made up of a pair of double edged pruners and a swivel pruning saw will make an ideal combination for pruning pines. These tools make smooth cuts and allow the limbs to be cut close to the trunk of the tree without injuring the bark. All cuts should be made as close to the trunk as possible without injuring the bark, except when there is a burl at the base of the limb, in which case the cut should be made close to the burl instead of the trunk.

Pruning for profit must necessarily begin when the trees are small in order to produce clear lumber which will not be cut away when the log is slabbed. Probably trees four inches in diameter breast high are as large as should be pruned in general practice. Pruning to one-half the height of the tree is another safe rule to remember in making the first pruning. However, about fifty trees at the State Forest Nursery have been pruned to two-thirds their height for three years without any apparent growth injury. Trees about twelve to fifteen feet in height are of good height at which to begin pruning. This will allow the first log to be pruned in two or three operations, which is about as far as one should attempt to go.

As some of the earlier State plantations have now grown to pruning size, the first pruning operation was made in the winter of 1927 on a small area at the State Forest Nursery at Gerrish. Height and diameter measurements were taken on the pruned area as well as on a part of the same plantation left unpruned as a check on the growth of the pruned area. All cost figures were kept. Every tree on this area was pruned although it is very doubtful if one pruning for profit warrants taking more than the dominant trees selected on a fifteen to eighteen foot spacing. On this area a check on the growth of the pruned and unpruned trees was desired.

The following summary of data accumulated from the operation is believed to be a fair example of pruning of similar sized trees elsewhere.

Pruning Data

Labor - 12 $\frac{3}{4}$ hours at	\$3.50
Acreage	.461 acres
Number trees pruned	496
Average height of trees	15.5
Average D. B. H.	2-7/8"
Average pruned height	6'
Linear feet pruned	2,950
Cost per 100 linear feet	\$0.162
Cost per acre	\$10.34

(Extract from Biennial Report of the N. H. Forestry Commission for the two fiscal years ending June 30, 1928. Dec. 1928, pp. 176-178.)

Dr. J. F. Martin left Washington the latter part of May for a field trip to the Lake States.

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Mr. Al Fivaz left June 8th for Warrensburg, New York, where he will have his summer headquarters.

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Mr. Wayne F. Painter, Agent at Spokane, Washington, resigned June 10th.

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Mr. Ray R. Hirt, an instructor in the New York State College of Forestry, who has been employed in blister rust control work during the summers of 1926, 1927, and 1928, was re-appointed as agent at Syracuse, New York, effective June 1.

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The Washington Office has lost two of its popular employees. Mrs. Alma Fivaz, Scientific Illustrator, resigned June 10th, and Miss Oma V. Watters, Assistant Clerk Stenographer, was transferred to the Property Room, Bureau of Plant Industry.

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Mrs Agnes T. Shields returned to the Office Monday from a week's vacation in Philadelphia.

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Agent N. H. Harpp's headquarters have been changed from Warrensburg to Albany, New York.

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Charles T. Geiser, who has been a messenger in the Washington Office since June 9, 1921, recently received a promotion to the grade of C.A.F. 1, Under Operator (Mimeograph). Besides serving in the Office, Geiser assisted Al Fivaz last summer in his Ribes ecological work at Warrensburg, N. Y., and last fall with R. G. Pierce conducted a survey for blister rust in the States just south of Pennsylvania.

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Robert "Bob" Caruthers married Miss Margraet Mitchell of Riverdale, Md., on April 25, 1929. "Bob" is now employed as an assistant in the Bureau of Standards where he is doing research and development work in connection with electrical meters and instruments. Caruthers had been employed by the Office of Blister Rust Control every summer since June 1922, with the exception of 1927, as Field Assistant, Collaborator and Agent, until he received his appointment in December, 1928, as Junior Assistant (Physicist) in the Bureau of Standards.

In the Informal Golf Tournament of the Department of Agriculture held May 31st in Washington, our two exponents of the "slice and hook" regained their honors, for at the end of the day, first place for low net score was gained by H. P. Avery, while J. M. (Jack) Palmer tied for second place. More power to their clubs.

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Office Anniversaries.

This month we celebrate the birthdays of the following members of the force who have been engaged continuously in blister rust control work for a period of ten years or longer:

Mr. E. C. Filler, Senior Pathologist - 13 years - entered service June 8, 1916.

Mr. W. O. Frost, Maine State Leader - 12 years - entered service June 18, 1917.

P U B L I C A T I O N S

Blister Rust

Anon. White Pine Blister Rust Control. Biennial Report of the N. H. Forestry Commission for the two fiscal years ending June 30, 1928. Dec. 1928, pp. 13, 14, 179-186.

Wyckoff, S. N. Report of (Western Blister) Rust Control Office. The Timberman, Vol. 30, No. 2, Dec., 1929, pp. 50-54.

White Pine

Gevorkiantz, S. R., and N. W. Hosley. Form and Development of White Pine Stands in Relation to Growing Space. A Preliminary Study with Form-Class Volume Tables of Natural and Planted Stands in Central New England. Bulletin No. 13, Harvard Forest, Petersham, Mass., 1929.



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BLISTER RUST NEWS



July, 1929.

Volume XIII

Number 7.

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
Office of Blister Rust Control

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister Rust Control
and the Cooperating States.

VOL. 13, No. 7

JULY 1929

DATES FOR FIRST APPEARANCE OF BLISTER RUST TELIA

The Plant Quarantine and Control Administration has recently secured from this Office figures on the earliest appearance of telia in various regions in the Northeastern and Lake States for consideration in making regulations concerning the movement of blister rust host plants. The data are as follows:

Southern New England: June 17, 1916; July 21, 1917; June 19, 1918; July 30, 1919; July 13, 1921; June 20, 1924; June 8, 1925; June 16, 1926; July 11, 1928; July 12, 1928; and on July 17, 1923, some specimens of telia reached Washington from Massachusetts.

Northern New England: June 26, 1913; July 24, 1916; June 10, 1917; June 2, 1918; June 6, 1919; and July 6, 1928.

Northern New York: August 23, 1917; June 26, 1918; June 30, 1919; and early in July, 1922.

Lake States: July 21, 1916; June 12, 1917; July 8, 1918; and July 10, 1919.

The above data for the years 1916 to 1919, inclusive, were taken from Dr. Perley Spaulding's Bulletin No. 957, "Investigations of White Pine Blister Rust", while later data were taken from the Blister Rust News.

The dates on the earliest appearance of telia are given here not only for purposes of information but for checking up. The Washington Office would be very glad if the agents would look over their notes for the earliest appearance of telia in their districts for as many years as is possible, and forward the data to this Office.

R. G. P.

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Telial columns were noticed on infected Ribes hirtellum in the town of Winslow, Kennebec County, Maine on June 18th.

John MacG. White, Maine.

FURTHER OBSERVATIONS ON THE RESEEDING OF BLACK CURRANTS(R.NIGRUM).

Last summer mention was made in the Blister Rust News of an instance where Ribes nigrum had sprung up from seed near the parent plants. This was in Westchester County, N. Y., near Mt. Kisco and was first noticed by Beehler and Vosburg who were doing black currant elimination work. Most of the seedlings were destroyed at the time. My attention was called to the matter and I went there and marked carefully the location of those that were allowed to remain. Last week I again visited the place and looked in vain for a single plant that might have survived, but not a sign of one could be seen.

Basing a theory on this single observation it would seem that blacks will seed in but the seedlings are not able to survive through the winter. If they did survive and were carried by birds as in the case of red currants, the status of blister rust in New York State might be many times more serious than it is at the present time.

H. G. Strait, N. Y.

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THE INOCULATION OF PACIFIC NORTHWESTERN RIBES WITH
CRONARTIUM RIBICOLA AND C. OCCIDENTALE

The results are given of a series of inoculation experiments with C. occidentale, the cause of the pinon or nut-pine blister rust, and C. ribicola, the white-pine blister rust, on a dozen or more species of Ribes and Grossularia, which are native to the Pacific Northwest. No essential physiological differences were discovered between the two Cronartiums in the uredinial stage under artificial greenhouse conditions, except in one case. Immunity to C. occidentale was shown by R. triste, while it was susceptible to C. ribicola.

The author states that practically all the northwestern species of Ribes proved decidedly susceptible to C. ribicola. The results obtained from inoculation experiments, taken together with what is known of the distribution of Ribes, are said to remove any chance that the western white-pine forests will escape the white-pine blister rust through the lack of susceptible alternate hosts.

G. G. Hahn

(Extract from Experiment Station Record, June, 1929, Vol. 60, No. 8, pp. 749,750.)

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HURFORD SECURES FULL PAGE IN PROVIDENCE SUNDAY JOURNAL MAGAZINE

In the Providence Sunday Journal Magazine for June 2 is a full page article, copiously illustrated with photographs, entitled "More Trees for State". The story features Mr. Wheaton Harrington of Foster, R. I., who is planting white pine for his grandchildren to cut. Blister rust control appears in its proper place under protection of white pine.

BLISTER RUST APPROPRIATION RETURNS FROM NEW HAMPSHIRE TOWN MEETINGS

20% More Towns Appropriate Funds in 1929 Than in 1928.

The March issue, of New Hampshire Forests, appeared too early to report on the action taken by towns and cities in connection with their program in blister rust control. To those of our readers who have participated actively in this work, or who have followed the progress from year to year, we feel that the results of 1929 town meetings will be of interest.

From returns made to the State Forester it appears that ninety-five (95) towns and cities appropriated \$29,300. As formerly, the State will increase these monies 25 percent. In 1928 there were 79 towns and cities who made available \$28,000.

The towns of Alexandria, Deering, Dorchester, East Kingston, Enfield, Jackson, Orange, Thornton, Washington appropriated for the first time.

Extract from "New Hampshire Forests" Quarterly Bulletin, June, 1929.

GRAFTON COUNTY, NEW HAMPSHIRE, TREE PLANTERS

PROTECT PINES FROM BLISTER RUST

A season of extensive tree planting has just come to close in Grafton County. Quite a number of softwoods were set out, white pines predominating. All owners of these newly made plantations are safeguarded from any blister rust damage. From reports which have come to me it appears that the reforestation program for 1930 promises to surpass any previous year. Out-of-state residents are buying up a number of old farms, and are putting the worn-out pastures to work by growing trees. (T.L. Kane)

Extract from "New Hampshire Forests," Quarterly Bulletin, June 1929.

FIELD METHODS OF ERADICATING WILD CURRANT AND GOOSEBERRY BUSHES

For the benefit of new agents and those newly interested in the practical work of blister rust control through Ribes eradication this 17 page mimeographed article of Mr. E. C. Filler's on "Field Methods" is here mentioned. This edition was revised in 1928.

Copies are available at the Washington Office for those not only on the blister rust control force but others interested in the subject.

R.G.P.

WORK AT THE ROADSIDE DEMONSTRATION AREAS REVEALS HEAVY LOSS TO PINE
REPRODUCTION IN NEW YORK

Perhaps there is no one outside of those men who are making damage studies in the blister rust organization, that has watched steadily the infecting, dying and disappearance of small white pines as I have these past several years. I recall three years ago when I first put in the Pottersville roadside demonstration. At that time there was a lot of white pine there with a considerable amount of infection and a lot of reproduction. Today most of the then infected trees have died and toppled over and almost all of the reproduction became infected, died and disappeared. It is strange to retag this area today, to clip off the old tags, tags that were put on living green trees last year, and this year to see that the trees are completely dead.

All that remains of much of the former reproduction is little dried up twigs, thinner than a lead pencil and smaller. If it was not for the tags attached to these twigs, the twigs would go unseen and be lost. The tags are really a clue and hence testify to what was once there. We are thinking seriously of discontinuing retagging this area another year because of the lack of diseased trees as a result of the pine on the area being actually cleaned out by blister rust.

To the average eye, however, a lot of this loss goes unnoticed on some areas because other trees are coming in. But what kind of trees are they? Hemlock and hardwoods, hence the disappearance of pine oftentimes unnoticed. I wonder how many other places are like this one. No doubt on hundreds of other places there is that same gradual change taking place where control measures have not been carried on.

I wonder too how many recall Doctor York's talk at the Springfield conference back in 1925 when he held up before the group a handful of little dead trees and stressed the point of protecting the young reproduction. And today I wonder just how much serious thought most of us are giving this matter of reproduction.

We also have another very interesting area at Eldred where the trees range in height from two feet to six and eight feet. This year we found twice as many infected trees as last year. Last year there were virtually no dead trees. This year a small percent were dead. What will next year show? Am willing to predict a 50% infection with a fair percent dead.

It is interesting to watch these areas from time to time for they produce facts from which we are able to base many of our arguments.

George E. Stevens,
Exhibit Specialist, N. Y.

RESULTS OF RE-ERADICATION WORK IN VERMONT

The eradication season opened in the White River District in Vermont on May 17, and to date work on several re-eradication areas has been completed. Some notes concerning this re-eradication will be of interest.

The Lewis Area was eradicated in 1922, 120 acres being covered, and 1925 Ribes destroyed at a cost of \$77.15. The area was reworked this year, 150 acres being gone over, 1897 Ribes being found and the cost being \$62.80. The above figures show a general restocking of Ribes over the entire area. In 1922 there were approximately 16 Ribes per acre and in 1929, seven years later, we find 12 Ribes per acre. The cost per acre was 64 cents in 1922, and 42 cents in 1929. This reduction in the cost of the re-eradication work is, I believe, due mostly to increased efficiency in eradication methods rather than fewer Ribes per acre. In 1922 flags were used to mark trail, whereas trail paper was used in 1929. No effort was made to keep data on Ribes as to their origin, whether seedlings, sprouts, or missed bushes. A large number of bushes, however, were examined to determine if they were due to a portion of the Ribes crown being left when the area was first worked. This was found to be true in numerous cases and as a result bushes were found with large sprout growth. Five bushes were measured with the following figures secured:

Bush No. 1,	56	ft.	L.B.S. (Leaf-Bearing Surface)
" " 2,	16	"	"
" " 3,	36	"	"
" " 4,	22	"	"
" " 5,	26	"	"

There is some excuse for crews missing bushes occasionally but once a bush is located there is very little cause for failure to eradicate it properly and the results secured on this re-eradication work indicate that improperly eradicated bushes constitute a more dangerous menace in most cases than missed bushes, as the latter are more likely to be small and very often in screened places. One of the encouraging features of this area is that little infection has taken place on the pine even with an unusual number of Ribes reseeding.

F. H. Rose, Vermont.

BLISTER RUST WORK IN RHODE ISLAND

The State Goes After the Cultivated Black Currant.

Control of white pine blister rust, which is essential if forestation projects under way and contemplated are to be successful, is aimed at in the campaign against cultivated black currant bushes being waged by the State Department of Agriculture.

Blister rust is a fungus disease which, curiously, thrives on white pine trees and currant and gooseberry bushes. The black currant is most easily infected and consequently is the most popular host for the rust. One of these bushes will infect white pines in large numbers. Their elimination is, therefore, an important step in the control of the disease.

BLISTER RUST IN RHODE ISLAND (cont.)

A year ago the Department of Agriculture declared the cultivated black currant a nuisance and ordered its destruction wherever found. This spring a vigorous campaign is under way to locate and uproot such bushes. In six weeks agents of the Department have found and destroyed more than 2000 of the plants in seven towns in the northwestern section of the State.

Blister rust, it is said, has done much less damage in Rhode Island, than in most other States, because of control efforts in the past and because of the fact that wild currants and gooseberries are not frequent in the woods. Complete eradication of cultivated black currants will go a long way towards reducing the damage that is being done.

The importance of the work is apparent. White pine grows on thousands of acres in the western portion of the State, and observations by the Department of Agriculture indicate that natural pine growth, as well as reforestation is on the increase. These trees, forming a valuable commercial crop, must be protected against destruction.

(Extract from "The Evening Bulletin", Providence, R. I., June 18, 1929)

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GROWTH OF PLANTED PINE TREES IN MICHIGAN

In a spring message to owners of farms and estates in Michigan the State University quotes its results from 25 years' experiments in timber growing to show what growth may be expected of trees planted in the State. In the university's plantations northern white pine 27 years old has developed diameters as great as 7 inches. For this group the average diameter, where trees are spaced as far as 6 or 8 feet apart, is 4.5 inches. Closely spaced northern white pine 22 years old shows an average height of 27.2 feet and an average breast-height diameter of 3.5 inches.

Scotch pine in 22 years has made an average height growth of 34.5 feet and has developed an average diameter of 4.5 inches. For this species, in a closely-spaced plantation, the maximum diameter at 22 years is 9.7 inches. ***

All of these plantations are on rather poor gravelly soils of low agricultural value.

(Extract from the "Forest Workers", May 1929, p. 7.)

Edit:- The above figures are in contrast to those secured by Professor A. K. Chittenden in plantations in southern Michigan*, where white pine 24 years of age, 416 trees to the acre, or approximately 10 x 10, had an average diameter of 8.2 inches, a maximum diameter of 12.2, and an average height of 42 feet. The difference in the average diameter and height may be due to the difference in spacing, or difference in soil.

* "Forest Planting in Michigan", Special Bulletin No. 163, June 1927, Michigan State College Experiment Station, noted in Blister Rust News for February, 1928.

WHITE PINE BLISTER RUST CONTROL IN WISCONSIN

The Department is confident that the growing of white pine for ornamental as well as for timber purposes can be continued indefinitely in Wisconsin. While this confidence remains unshaken, it is evident that the eradication of currant and gooseberry bushes in, and surrounding, white pine stands must become common practice. In 1927 and 1928 the number of places where infections on pine occur became more numerous than in former years, and, therefore, a further spread of the disease is expected in the future. ****.

White pine blister rust was first found near Amery, Polk County, in 1915. It is reported to the Department in 1916, and measures were taken with a view of stamping out the disease by cutting down and burning all the white pine in, and surrounding, infection centers. In 1917 a temporary crew was used to scout for infection centers, while work at Ribes eradication at St. Croix Falls was performed by another crew for a few weeks. In 1918 and 1919 all white pine trees in several woodlots were burned, and scouting for infection centers was continued. In 1920 and 1921 Ribes eradication rather than cutting down the pine in infection centers was stressed. In 1922 cutting down pine was discontinued, but individual diseased trees were removed. Ribes eradication was performed on a small scale, and scouting was done by two men. In 1923-25 Ribes eradication was performed on a small scale and scouting was done mostly by one man for only one month in the summer. In 1926 no funds were available for Ribes eradication, and scouting work by one man was confined to six weeks. In 1927 Ribes eradication was performed by a crew of five men in two infection centers for six weeks, and scouting was limited to fifteen days by one man. At the expense of the Federal Bureau of Plant Industry a survey of the white pine stands in each county was made, which required three months for one man. In 1928 five men were employed at Ribes eradication during July, after which the same men were engaged as scouts for a short time. More than one hundred thousand wild currant and gooseberry bushes were eradicated during the biennium.

The chief places where the blister rust was found on Ribes and pine in 1927-28 and the regions where white pine occur in appreciable numbers, are shown on the following map.

The map shows that spread of the blister rust was greatest in the region comprising Dunn and Chippewa Counties, where over twenty separate infection centers on Ribes and pine were found. In the area comprising Shawano and Waupaca Counties fifteen separate infection centers were found. Although the disease is not as far advanced in the latter region as in the former, the danger is equally great because there is much more pine of marketable size in Shawano County than in any other county in the State. Late in the fall of 1928 two Ribes infection centers were found in Florence County, but whether more serious infections exist in this region could not be determined. The blister rust was found to be more serious in Polk and Barron Counties than it was several years ago because the funds for control work were insufficient during the past four years. In 1928 the disease was discovered for the first time in Waupaca and Florence Counties, which makes a total of thirteen counties in which the blister rust was found since 1916.

H. J. Ninman, Wisconsin.

(Extract from the Biennial Report of the Wisconsin State Department of Agriculture for the Years 1927 and 1928, pp. 114-116.)



On the map the black triangles indicate places where infections on white pine were found within the last two years, and the circle with the dot in the center indicates general areas where Ribes infections were found during the same period. The black squares show places where Ribes eradication work was done in 1927 and 1928. The star shows the place where experimental work is being done by the federal Bureau of Plant Industry to determine the best methods of control work by Ribes eradication. The small black dots show places where small white pines as well as merchantable white pines are sufficiently numerous to make up an appreciable percentage of the final stand of the forest if left to grow unmolested. Dots close together indicate a higher percentage of white pines of the forest than dots further apart. The dots do not denote any definite number of acres or number of trees per acre.

BEEES - CULTIVATED RIBES - AN ENTOMOLOGIST

I have stated so many times that the problem of the orderly removal of cultivated Ribes is our most troublesome problem in blister rust control in Massachusetts, perhaps I may be pardoned if I contribute one more item bearing upon this phase of our work.

In connection with the provisions of the Federal blister rust quarantine (No.63) the Division of Plant Pest Control of the Massachusetts Department of Agriculture is continuing the effort to establish a Ribes-free condition around the more important pine-producing nurseries in the State. This spring, upon the resumption of field work, it became necessary to remove the cultivated Ribes in the vicinity of one such nursery in the vicinity of Springfield. In carrying on this work, it has been the practice to solicit the cooperation of property owners and to make every endeavor to secure the voluntary removal of the condemned bushes. Failing to secure such cooperation, it then becomes necessary to resort to the authority of the law.

In this particular instance, all went well until Mrs. B....was encountered. She had been informed of the necessary for removal and promised to remove the bushes. Subsequent inspections, however, disclosed the presence of the bushes. A final day was set when it became necessary to say "the bushes must be removed at once." After much argumentation, the Inspector started to carry out the edict, but upon arrival at the Ribes patch, he found it alive". Mrs. B.... in endeavor to defeat the law, had actually placed a hive of bees in the Ribes planting and felt that she had conquered at last. Not so, however, for the Inspector, Mr. Lowry, is an entomologist by profession, and has no fear of bees. The Ribes were removed forthwith and there were no casualties, apiarian or human.

C. C. Perry, Massachusetts.

"SHOOT IF YOU MUST.....BUT SPARE YOUR COUNTRY'S FLAG"

Apropos of Mr. Lowry's experience with the beehive, I might just relate an instance of opposition to the removal of cultivated Ribes which I had to contend with.

In this case, repeated efforts had been made to secure the voluntary removal of the Ribes but to no avail. A final date was set, therefore, and on such date we appeared on the scene to remove the bushes according to law. Upon arrival in the garden, however, we found that the owner had actually tied to each plant a number of miniature United States flags and he was there to greet us with this mandate, "if you remove those bushes, you will be guilty of desecrating your country's flag." This seemed to be more or less of a fact and we retired temporarily.

When an opportunity presented itself, however, we returned. We very carefully removed each tiny flag from its improvised flagpole, removed the Ribes, and then presented the flags unblemished and respected, to the owner.

E. M. Brockway, Massachusetts.

BLISTER RUST IN A PENNSYLVANIA FOREST

Western White Pine More Susceptible to Rust Than Northern White Pine.

H. E. Clepper, in charge of special field research work, reports an interesting illustration of the susceptibility of two species of 5-needle pines to blister rust. In the Prouty Lick section of the Susquehannock District two adjoining plantations of native white pine and western white pine (P. monticola) set out in 1913 had gooseberry bushes scattered throughout the area. The western white pine had a 50% infection of blister rust disease (many of the trees are dead or dying) dating back to 1920, while in the native white pine no infections were found. District Forester Elliott intends to eradicate the gooseberries from both these plantations during the present summer.

Extract from Service Letter of June 20, 1929 of the Pennsylvania Department of Forests and Waters.

BLISTER RUST SPREADING IN QUEBEC

A letter has just been received from Mr. James R. Dickson of the Canadian Forest Service at Ottawa, concerning the spreading of blister rust in southwestern Quebec.

"The white pine blister rust is beginning to invade the beautiful Gatineau Valley to the north of this city, and I am anxious to place in the hands of some of the prominent residents some clear and convincing literature as to the real menace and potential loss involved and so induce them to take organized action against it."

x x x x x x x

THE "LATEST NEWS FLASH" ON
TOWN FORESTS IN MASSACHUSETTS

According to Mr. Harris A. Reynolds, Secretary of the Massachusetts Forestry Association, the Town Forest movement in Massachusetts is in a particularly healthy state. In a recent interview, Mr. Reynolds was most enthusiastic over the progress which is being made. On June 1, his records show that there were 80 officially designated town forests in Massachusetts, and several other towns have committees working on the project to establish such areas.

According to Mr. Reynolds, the record for the present year is indicative of the steady progress which is being made. During this spring, (1929), there were seven additional forests established, with an area of 6,000 acres. The appropriations reported thus far for expenditure on town forests this year amount to \$9,000.

From a feeble beginning in 1914 when the City of Fitchburg officially established the first municipally-owned Forest, the movement has grown, until today, the 80 Town Forests in the State represent a combined area of 10,500 acres. On this area 1,900,000 trees have been planted. For this reforestation work, for upkeep, patrol, etc. the sum of \$111,000 has already been expended by the municipalities concerned.

In Mr. Reynolds' estimation, Town Forests are and will continue to be a most effective educational agency in the general program of forestry. Because of the fact that Town Forests are conveniently located, and perhaps better suited for recreational activities, they are a greater factor than State Forests in educating the general public.

The blister rust control agents are actively cooperating with the town officials in performing control work on such of these areas as have been planted to white pine or which may support a natural stand of this species.

C. C. Perry - Massachusetts.

<p><u>Errata.</u> It is with distinct regret that we call to your attention an error in our last issue. On the cover page the Blister Rust News No. 6 of 1929 was dated May instead of June.</p>
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TREE PLANTED BY FORMER PRESIDENT COOLIDGE
ON THE WALPOLE (MASSACHUSETTS) TOWN FOREST
JUST ESCAPED THE BLISTER RUST.

That the blister rust is no respecter of persons was very nearly demonstrated in the Walpole (Massachusetts) Town Forest where a white pine just 12 feet away from one planted by former President Coolidge was found to have a branch blister rust canker; a miss by 12 feet.

This Town Forest, the second in the State* was dedicated on May 5, 1916, former President Coolidge planting the first tree, a white pine. (See illustration). Following this the first acre of the Forest was planted by the boys and girls of the town. This part of the dedicatory exercises is fittingly commemorated by a granite marker and bronze tablet appropriately worded (see illustration).

The land comprising the original Forest was a gift to the town from one of its prominent citizens, George A. Plimpton, who presented 150 acres to be held as a Town Forest. Since that time other public spirited citizens of Walpole, have presented additional land, until today the Forest comprises an area of 307 acres. The area has been completely reforested by the planting of 71,000 trees including white pine, red pine, Scotch pine, hemlock, and Norway spruce with white pine predominating. The Forest has also been made a bird preserve, and the town makes an annual appropriation for patrol and care.

In 1926 the area was first inspected for the white pine blister rust, and it was found that the rust had already taken its toll. The tree planted by former President Coolidge escaped, but a specimen in the next row had a branch canker. The infected branch was removed and thus far no evidence of the disease has appeared in the trunk indicating that the tree may have been saved by the timely discovery and the use of proper surgery methods. At a number of other points, badly diseased trees were found. These trees have been removed and burned, although recent inspections have shown that the layman has difficulty in recognizing the rust as a number of infected trees were overlooked.

Following the finding of the rust, immediate plans were formulated to perform control work. In protecting the Forest from the further spread of the disease, it was necessary to remove 233 cultivated Ribes from a residential section bordering the Forest. Wild Ribes, however, were not found in any abundance, only 50 bushes being located on the more than 200 acres examined including the protective zone. In order to be doubly certain that the white pines on the area are properly protected, the local tree warden who has charge of the Forest re-examined the area this spring, and uprooted a few scattering bushes that had been missed in the initial examination.

The accompanying illustrations show portions of the town forest as it appears today, including the dedicatory pine, now a vigorous sapling. The splendid example set by Walpole has been an inspiration to other communities.

E. M. Brockway, Massachusetts.

*Fitchburg, although a city rather than a town, claims the distinction of having established (1914) under a State law, the first Town Forest in the United States.

TOWN FOREST

WALPOLE, MASSACHUSETTS



ENTRANCE TO FOREST - SHOWING INFORMATION BOARD AND DEDICATORY MARKER



SHOWING WHITE PINE TREE PLANTED BY EX-PRESIDENT COOLIDGE1916
(Handkerchief indicates white pine infected with blister rust)

TITLE SLIDES USED TO ADVANTAGE IN MASSACHUSETTS

Mr. C. C. Perry, Massachusetts State Leader, used a set of slides in the stereomotograph at the Centennial Flower Show in Boston, reference being made to this use in an article entitled "Lantern Slides" in the May News Letter. The following title slides were used by Mr. Perry:

WHITE PINE

Is the most important forest tree in Massachusetts. White pine lumber has been used in home building and in countless other ways - "Matches to Masts" ever since the landing of the Pilgrims. Its continued production is essential.

BLISTER RUST

Is a disease caused by the growth of a fungus that girdles the tree.

In the spring - April and May - Blister Rust can be identified by the appearance of bright orange-yellow blisters breaking through the bark of diseased pines.

FORTUNATELY

The Blister Rust spores which are produced on the diseased pine cannot harm other pine trees. These spores can only develop on the leaves of currant or gooseberry bushes. During the summer the disease appears on the under side of the currant and gooseberry leaves as a yellowish rash or rust.

There are two distinct stages of the disease on the currant and gooseberry bushes - spring and fall stages. In late summer the diseased leaves become covered on the under side with brownish hairlike structures and from these a new crop of spores are produced. These are the spores that carry the disease to pines.

The only way to get rid of these fall spores is to get rid of the bushes on which they are produced. To prevent the spread of Blister Rust all currant and gooseberry bushes within 900 feet of white pine should be destroyed. The following slide shows a cros of men eradicating these bushes from a woodlot.

Wild currant and gooseberry bushes are found in moist places in the woods, along stone-walls, along roadsides, in pastures, and around abandoned farms and orchards.

They are found most easily in the spring of the year, as they are about the first vegetation to send forth leaves.

Cultivated varieties of currant and gooseberry bushes are also susceptible to the disease and should not be grown in pine sections of the State. The cultivated black currant and its relative, the so-called flowering currant or clove bush are particularly dangerous. Do not plant these bushes.

WHITE PINE

Is the best paying crop for poor soils.
Will grow where the plow cannot go.
Pays a large share of the taxes.
Furnishes lumber without freight charges.
Stabilizes local industry.
Furnishes employment during the winter.
Attracts summer people.
Helps to make good hunting and fishing.
Prevents erosion of hillsides.
Keeps blowing sands in their place.
Will continue to grow rapidly -

IF

Protected from Fire, Insects and Diseases.
Its protection affects not only owner, merchant, banker and lumberman, but all good citizens.

If you own white pine get in touch with your local blister rust control agent who is located in the Office of the.....

.....
He will be glad to advise you regarding the protection of your white pines against the blister rust.

It is believed that some title slides such as the above could be used to advantage in some other States, even where not used in a stereomograph or other automatic lantern slide projector. If any of the State leaders or

agents desire such title slides they can be secured from the Washington Office.

It seems to me that it would be advisable for each State leader to prepare some title slides different in character from those of other States, giving the value of white pine to the State, and perhaps giving something concerning the securing of seedling stock for reforestation purposes from their State nurseries.

R.G.P.

- - - - -

Mr. James Pike of Westbrook, Maine, has discovered a new use for the old lace curtains that formerly hung in his parlor. The other day I went in to see the crew who were working in a swamp where mosquitoes were most plentiful. The owner of the lot, Mr. Pike (he is seventy years young and spry as a cricket) was working with the crew and over his head hung the most gorgeous mosquito net a "Ribes hound" ever dreamed of. However, it served the purpose and Mr. Pike yanked up the Ribes and inwardly thanked his wife for having discarded the curtains.

S. D. Conner, Maine.

ERADICATION OF
CULTIVATED BLACK CURRANTS MAKING HEADWAY IN
RHODE ISLAND.

Over 2,000 cultivated black currant bushes have been pulled up and destroyed by agents of the State Department of Agriculture during the past six weeks as part of the control policy to prevent the continued spread of the white pine blister rust on these bushes.

The Commissioner of Agriculture declared the cultivated black currant a public nuisance a year ago, under authority of the Blister Rust Control and State Nursery Acts, and since that time, owners of the pest plant have been giving the Department full cooperation whenever they are informed of the disease and its control.

The Department's agents are making a systematic search for cultivated black currants and to date have completed the scouting of the northwestern townships of the State, including Burrillville, Glocester, North Smithfield, Smithfield, Foster, Scituate and the western sections of Johnston and Cranston.

LARGE SCALE RIBES ERADICATION WORK AND EXPERIMENTS WILL BE CARRIED ON IN
NORTHERN IDAHO THIS YEAR.

Location	Kind of Work	No. of crews and number of men per crew
Potlatch T.P.A.* E. of Elk River	Large scale eradication work mainly knapsack spraying	2 - 26 man crews
Clearwater T.P.A. near Headquarters	Large scale eradication work mainly knapsack spraying.	1 - 26 man crew
Musselshell R.S.** knapsack spraying.	Methods study - Power spraying and	1 - 15 " "
Honeysuckle R.S. on the Coeur d'Alene National Forest.	Re-eradication of hand pulled areas	1 - 15 " "
Bovill	Re-eradication on chemically treated areas	1 - 7 " "
Clarkia	Experiments in application of chemicals.	1 - 5 " "

Total number of crews - - - - - 7

Total number of men - - - - - 120

*T.P.A. = Timber Protective Association.

** R.S. = Ranger Station.

The work on the above projects was to be in full swing by July 1.

Extract from Western Blister Rust News Letter of 6/15/29

A LOVER OF NATURE
UNWITTINGLY ESTABLISHES A BLISTER RUST INFECTION CENTER.

Mr. X is a great lover of nature and is always on the lookout for specimen trees and native shrubs. Wherever he sees a tree or shrub growing wild that appeals to him, he is inclined to request permission from the owner to dig it up and transport it to his summer home, which is located on a slightly ridge along the Connecticut River in the town of South Hadley, Massachusetts. About eight years ago, Mr. X saw some particularly fine young white pines in a location in the nearby town of Westhampton and obtained permission of the owner to dig several of them and transport them to his summer home. The trees grew well, and he was very much pleased with his ability to transplant wild plants so successfully. In the last two or three years, however, strange developments have taken place. He has noticed branches dying and occasionally an entire tree would turn brown and die.

Last fall, it was necessary for us to eradicate a considerable number of cultivated Ribes to protect certain valuable white pine plantations in South Hadley. It was quite noticeable that a goodly percentage of the bushes were diseased, but at that time we were unable to locate infection on pine. This spring, however, we sought again to discover the source of the Ribes infection and undoubtedly found it on the property of Mr. X.

It appears that when Mr. X transported his white pines, he selected his trees from what has since been found to be one of the worst infection areas in the town of Westhampton. Moreover, Mr. X had "set the stage" at the new site by previously planting an abundance of host plants; namely, 43 cultivated Ribes including three English Black Currants. Everything was in order then for a "battle royal," and the Ribes were winning when we happened on the scene.

Upon being informed of the situation, Mr. X immediately got busy and removed the cultivated Ribes. Upon his urgent request, and with our assistance, all trunk infected trees (13 in number) were cut down, and all branch cankers were pruned from the trees having no trunk infections. In order to obtain data which might be of interest, we also made a study plot of the area, tho small in extent, and the following is what we found:

Total No. trees transported from Westhampton 23 (all infected)

Natural reproduction - No. trees..... 48 (17 infected
31 healthy)

Total No. trees examined..... 71 (56% infected)

In other words, Mr. X not only had the original trees, all of which were infected, but the rust had spread and infected 17 additional trees on the lot, and the action was still in progress, of course.

The exact time of transplanting is not known, but the canker data show that the first infection on the natural reproduction took place in 1921. Complete canker data by years are recorded on the following page.

Cankers by years on
transplanted trees

1919.....	3
1921.....	2
1922.....	1
1923.....	2
1924.....	7
1925.....	21
1926.....	11
1927.....	<u>3</u>
Total No.	50

Cankers by years on
natural reproduction

1921.....	8
1923.....	2
1925.....	12
1926.....	18
1927.....	<u>7</u>
Total No.	47

The largest number of cankers found on any one tree was 17. These apparently originated as follows: 1 - 1925; 12 - 1926; 4 - 1927. Curiously enough, these were all branch cankers, and as far as could be determined, the infection had not penetrated to the main stem. This latter fact, however, remains to be confirmed next spring, when the plot will be re-checked to determine the presence of additional cankers now latent.

Altho the number of trees involved is small, this case serves as an example of what might happen and perhaps does happen when otherwise well-intentioned people obtain trees in the wild state and transport them illegally to other parts. This is but one more and perhaps a relatively unimportant center of infection, but its origin is of more than passing interest and its discovery solves at least one infection riddle.

R. E. Wheeler, Massachusetts.

BERKSHIRE BITS.

A 1928 cooperator who is active in Boy Scout work in his community gave a blister rust talk to his local troop, sometime during the winter.

33 red currants reported to have been planted 150 years ago and 2 red currants reported to have been planted 175 years ago were destroyed in Stockbridge in June.

A pine plantation in Berkshire shows 38% of the pines are rusted in a check plot and 77% are weeviled. No need for lumbermen to envy this lot.

The willow scab fungus is plentiful throughout the entire county and has taken heavy toll of willows in the past two years.

W. J. Endersbee. Mass.

BULLETINS RELATING TO WHITE PINE PUT OUT BY THE HARVARD FOREST.

A list of the bulletins of the Harvard Forest, Petersham, Mass. relating to white pine has been recently received from Prof. R. T. Fisher the Director of the Forest. Since these relate to the crop as grown in New England which we are striving to protect, it was thought that many of the agents might care to secure them.

The following are still in print:

No. 1. The Management of the Harvard Forest, 1909-1919. By Richard Thornton Fisher, Director of the Harvard Forest. 25 cents.

No. 5. Control of the White Pine Weevil by Forest Management. By H. B. Peirson. 50 cents.

No. 7. Quality and Growth of White Pine, as influenced by Density, Site and Associated Species. By E. E. Tarbox, with field assistance by P. M. Reed. 50 cents.

No. 8. Mixed White Pine and Hardwood. By A. C. Cline and C. R. Lockard. With an introduction by R. T. Fisher. 50 cents.

No. 13. Form and Development of White Pine Stands in Relation to Growing Space, by S. R. Gevorkiantz and N. W. Hosley. \$1.

Shorter articles on white pine by members of the staff of Harvard Forest have appeared in the Journal of Forestry and in the Proceedings of the 8th Annual Blister Rust Conference. These articles the titles of which appear below have been mimeographed and are available at the Washington Office of Blister Rust Control.

The Management of Second Growth White Pine in Central New England. By R. T. Fisher and E. I. Terry. Journal of Forestry, Vol. 18, No. 4. p. 358-366. April 1920.

Notes on Release of White Pine in Harvard Forest, Petersham, Massachusetts. By J. Nelson Spaeth, Assistant to the Director. Journal of Forestry, Vol. 20, No. 2, pp. 117-121. Feb. 1922.

Observations on the Management of White Pine with Special Reference to Reproduction Methods Used on the Harvard Forest at Petersham, Massachusetts* By J. Nelson Spaeth.

*(Paper delivered before the Eight Annual Blister Rust Conference, Held in Boston, Mass., February 8-10, 1923.)

BENEFIT FROM CEDAR ERADICATION EVIDENT IN VIRGINIA

We have had sixteen years of experience in the eradication of the alternate host of an economically important fungous parasite in Virginia. We refer to the large scale eradication of the cedar trees in Virginia. A wisely written and rigidly enforced state law no doubt was the most important factor in this eradication of the red cedar in Virginia and saved the apple industry of this state which ranks third in production of apples in the United States. In the northern end of the Valley of Virginia where hundreds of thousands of cedars have been cut, cedar rust is no longer a disease of any importance. In districts bordering on uncut cedar areas this disease is the limiting factor in the production of cedar rust, susceptible varieties like York Imperial, Ben Davis and Rome Beauty.

There will be an opportunity for plant pathologists motoring to the summer meetings in North Carolina to traverse the historic old Valley Pike through Virginia where the results of eradication and non-eradication of cedar trees can be seen along the way. To those who contemplate this trip this summer we wish to suggest an examination of York Imperial foliage in the Winchester section and compare the results with similar examinations made in orchards within the battle field of Cedar Creek about 20 miles south of Winchester. We feel sure that we have here an example of disease control that will register a real kick to a plant pathologist's pride of profession. (F. J. Schneiderhan).

From The Plant Disease Reporter, July 1, 1929.

Edit: This news from Virginia is very much appreciated. Since as Mr. Schneiderhan states they have had 16 years of experience in red cedar eradication to protect their apples from the cedar rust, their work antedates our own large scale control work which began in 1916 and 1917.

However, to give due credit to the early workers in blister rust control, it should be stated that Ribes eradication was carried on 20 years ago in 1909 in New York State, in and around the white pine plantations made with German stock. Seventeen thousand one hundred and fourteen Ribes bushes were destroyed in that year in and near 45 white pine plantations.

Our blister rust control workers can cite this excellent example from Virginia of disease control through removal of one of the alternate hosts.

R.G.P.

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271 cities in New York are developing municipal forests according to American Forest & Forest Life of January 1929. Probably the majority of these forests will have some white pine either native on the site or planted. The question arises, Are they being protected from the blister rust?

Mr. W. J. Cullen's headquarters have been changed from Rochester to Laconia, N. H. effective July 10.

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To assist Mr. A. E. Fivaz in his ecological investigations in New York State there has been appointed Messrs. Lawrence P. Gould, Geo. C. Cowdrey and Donald F. Seaton.

- - - - -

Mr. Lawrence B. Ritter received his appointment as agent and state Leader, to work in Minnesota, effective July 1.

- - - - -

Mr. Alexis R. Olson has received an appointment as Agent, to work in Connecticut effective July 1.

- - - - -

Mr. Donald W. Nelson, Jr. has received his appointment as Junior Forester, with headquarters at Missoula, Montana, effective July 1.

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Announcement has been received from Mrs. Myrtle Cummings Dowdy formerly in the Washington Office and later in the Spokane Office, of the birth of a daughter Carol Jeanne Virginia, born May 22nd, Congratulations!!

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Mr. Donald M. Gray received an appointment as agent to work in Minnesota effective July 1.

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Messrs. R. C. Hertzler and N. E. Shoemaker were appointed agents to work in Pennsylvania, effective July 1.

- - - - -

Mr. Paul B. Mott was appointed as agent and state leader in New Jersey, July 1.

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OFFICE ANNIVERSARIES

In July we celebrate the birthdays of the following members of the force who have been engaged continuously in blister rust control work for a period of ten years or longer:

Mr. W. J. Endersbee, Massachusetts Agent - 10 years - entered service July 16, 1919.

Mr. R. G. Pierce, Assoc. Pathologist, Washington office - 16 years - Office of Forest Pathology July 11, 1913. began blister rust work summer 1915.

P U B L I C A T I O N S

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Anon - Blister Rust Returns From Town Meetings.
New Hampshire Forests. Quarterly Bul.
June 1929. p. 10.

Anon - Forestry Legislation - Blister-Rust Control.
New Hampshire Forests, Quarterly Bul. June
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Anon - White Pine Blister Rust Control.
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illus. 1929.

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Pine

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BLISTER RUST NEWS



August, 1929.

Volume XIII

Number 3.

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
Office of Blister Rust Control



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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

THE BLISTER RUST NEWS

Issued by the Office of Blister Rust Control
and the Cooperating States.

Vol. 13, No. 8.

August, 1929.

ASSISTANT CHIEF OF BUREAU ALLANSON, AND L. W. KEPHART, GRASS
SPECIALIST, RETURNED TO WASHINGTON FROM A WESTERN TRIP.

Mr. H. E. Allanson, Assistant Chief of the Bureau of Plant Industry, and Mr. L. W. Kephart, one of the grass specialists of the Department and one of the original group of experimenters in chemical eradication of Ribes, returned from their Western trip about August 1st. They visited among other places our Western Office at Spokane, as well as several places in Idaho where blister rust control is being carried on, also the heavy infection center at Revelstoke, British Columbia.

Mr. Allanson expressed himself as frankly pleased with the fundamental way in which research and experiment were being carried on to solve the many problems which were arising in the Western work. Meeting the men in the field and office he considered very much worthwhile.

Mr. Kephart stated: "The Office of Blister Rust Control is the first organization in the world to make a thorough technical investigation of chemical plant poisons. Mr. Offord and his associates are to be congratulated on the progress that they are making in a difficult field".

R.G.P.

MICHIGAN INTERESTED IN BLISTER RUST

Many Sections of the State Carrying on Control Work.

Work at Higgins Lake -

In the area surrounding the State Forest Nursery at Higgins Lake we have encountered a large number of wild currants and gooseberries in a swamp between the nursery and the shore of Higgins Lake. Have pulled about 3,000 bushes a day for the last week and expect to keep up this average. We hope to complete the areas this week. It seems that the south side of the nursery where the swamp occurs is the only place where currants and gooseberries grow within the 1,500' area. The predominating species were the Swamp Red Currant, Prickly Currant, Skunk Currant, Wild Black and Hudson Bay Currants.

Data has just been received (July 31st) that the total number of bushes pulled in Higgins Lake area was approximately 36,500. The crew worked on this area only two weeks. The lowest single days pulling numbered 6,124 bushes.

Work at East Lansing -

The data sheet for the control work done at the Michigan State College Nursery, East Lansing, shows a total of 37 Ribes nigrum and 473 other currant and gooseberry bushes destroyed, making a grand total of 510. The area of the nursery is approximately 25 acres and only a portion of this is used for the production of white pine. The present inventory shows 1,150,000 white pine growing in the nursery.

Work at East Tawas -

A summary sheet for the control work at the Federal Forest Nursery, at East Tawas, shows that a total of 102 Ribes nigrum and 4,396 other currant and gooseberry bushes were destroyed. The area of the nursery is 10 acres and present inventory shows 75,000 white pine seedlings now growing.

Work in Other Sections -

While the total number of bushes destroyed for Roscommon and Missaukee Counties cannot be stated exactly, it can be stated that black currant eradication work in these two counties is completed. The men have already started work in Marquette, Gogebic and Newaygo counties. The completion of work in these counties will wind up the black-currant eradication for the year.

I wish to report the finding of Hudson Bay currants (Ribes hudsonianum) in Iosco County as well as Roscommon County. This means that in the three counties where we have carried on eradication work on currants and gooseberries in the northern part of the State we have the Hudson Bay currant. I am sure that it occurs in many of the other counties.

D. J. Stouffer, Mich.

MORE DATA ON TELIA FROM NEW YORK

Mr. Ray R. Hirt, who is doing investigative work at the Pack Forest, Warrensburg, Pennsylvania, writes that he found on July 19 some leaves of Ribes rotundifolium with telia. He says, "I am sure that telia were 4 days old at the time". Mr. Hirt continues, "Has anyone noted any relation between heavy initial infection of Ribes and the early appearance of telia? I feel that there is a distinct relationship."

Additional data has been received later from Mr. Hirt:

On July 24, "Telia were found on infected red currants. At present there is less than 1% of the infected area producing telia".

On July 29, "Found telia abundant on Ribes prostratum (skunk) today. Telia must be a week old and are becoming gray."

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BLISTER RUST PROVES FEASIBLE IN THE EASTERN STATES

"The white-pine area of New England and New York is estimated at 8,221,137 acres. Wild currant and gooseberry bushes have been removed for the first time on 6,832,498 acres, thus bringing the disease under control on more than three-fourths of the white-pine acreage. More than 67,500,000 currant and gooseberry bushes have been uprooted at an average eradication cost of 21 cents an acre. The initial removal of these bushes will be completed in this region within the next few years and control of the disease effectively established on protected areas. In order to keep the disease under continuous control, re-eradication of currants and gooseberries will be necessary over considerable areas at intervals of seven or more years, depending upon local conditions. At the present time control measures are being applied on more than 800,000 acres of land annually.

"The affected States, towns, and individuals have cooperated effectively in the control work. More than 16,000 individuals and a large number of towns have cooperated in the application of control measures. Also hundreds of citizens who do not own white pine have voluntarily destroyed their cultivated currants and gooseberries to help protect this valuable species. This commendable public interest has made possible rapid progress in establishing control of this disease in the white-pine forests of New England and New York."

J. F. Martin.

(Extract from Yearbook of Agriculture, 1928, pages 168,169.)

SOMETHING NEW IN RECREATIONAL IDEAS FOR FAIRS

Down in West Virginia at the county fairs the usual professional carnival is being gradually ousted by the home people who put on their own shows. In the Country Gentleman for May of this year, Miss Betty Eckhardt, Recreation Specialist, tells of the success which this movement has been having. The drawing features of today's fairs are the local contests in baseball and barnyard golf, home talent plays and pageants. Of 30 counties, 16 now have no carnival features at all - while in 14 they are gradually being eliminated. This movement of the county fair for the people and by the people began in 1926 in Pocahontas County. These fairs are becoming increasingly popular as local talent supplants the hired talent.

It is possible that these forward looking movements are also taking place in county fairs further north and west. Here is where the blister rust control agents may have a chance to show their wares. Do you remember that leaf guessing contest in which a large gooseberry or currant was used? I think this was used in New York by Nichols.

Brockway in 1925 put on a demonstration at the Weymouth Fair in Massachusetts which furnished an educational feature of value. "Brock" was given space near the grandstand, ordinarily paid for by a midway fakir. He writes:

"We put a good specimen infected tree on each fender of the old Ford and put the big U. S. Department of Agriculture cooperating sign on the windshield. We then lined the hood and fenders and running boards with Riker mounts and signs and pictures and infected limbs. We talked to 375 people in two days."

Some ingenuity on our part in searching for demonstration ideas which will fit in with the spirit of the fair should bring in results in increased cooperation in control work.

R. G. P.

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LARGE GOOSEBERRY BUSH FOUND GROWING IN TREE

One of my crews working in Bartlett, Carroll Co., N. H., on private work found considerable pine infection that did not seem to be accounted for by the number of Ribes they had located. They carefully ran a strip along the roadside on the opposite side of the highway. One of the men on coming to a large ash looked up the trunk and found a good sized Ribes cynosbati growing in a crotch about 10 feet from the ground. It was about three feet high and probably had 40 feet of leaf-bearing surface. It was so firmly wedged in that it had to be cut out and will have to be watched to see that it does not sprout.

S. H. Boomer, N. H.

NEW YORK WAYSIDE DEMONSTRATION ATTRACTS ATTENTION

A letter has just been received at the Washington Office from a resident of Lake Pleasant, New York, which shows the value of wayside demonstrations. He writes as follows:

"Thanks to your pamphlet and marking of some wayside White-Pine Blister Rust, I have identified it as attacking a beautiful tree about thirty feet tall on our grounds.

"We shall try to secure the destruction of currant and gooseberry bushes that we know are about 800 feet away."

Note:- Most likely this man obtained one of the blister rust circulars which are placed in a box in connection with roadside demonstrations. In this connection attention is called to an article by Mr. George E. Stevens of New York on "Blister Rust Roadside Demonstrations in New York State", on page 173.

R. G. P.

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SCOUTING FOR RIBES IN PENNSYLVANIA

Scouting for Ribes is being carried on during July and August by two field agents, R. C. Hertzler and N. E. Shoemaker. Mr. Hertzler has been agent in the surveys carried out during 1928 and 1927. His findings in those years presented a very interesting correlation with the school survey results. Mr. Shoemaker is a new man and was given a preliminary eyeful of blister rust on wild Ribes, black currants and red currants, as well as on pines, in the northern part of the State before starting his survey in Somerset and Bradford counties. From here, his work will bring him eastward to the vicinity of Harrisburg, while Mr. Hertzler will cover the territory from Harrisburg to the New Jersey border.

In August, the staff of the Department of Forests and Waters is planning to make a survey through their district foresters, involving an examination of at least five scattered lots of wild Ribes by each individual. Since the greatest number of these forestry observers are in the northern part of the State not covered by the two agents already mentioned, we hope in this way to obtain a fairly good picture of the extent of blister rust on Ribes in Pennsylvania in 1929.

W. A. McCubbin, Pa.

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BLACK CURRANT ERADICATION IN RHODE ISLAND

We have eradicated about 2800 cultivated black currants to date. Other than the closely settled districts near Providence, practically all of northern Rhode Island has been scouted except Lincoln, Cumberland, and part of Warwick. I believe it will take another year's work to complete the entire State including Newport and Bristol counties but excluding the cities.

A. W. Hurford, R. I

NOTES ON BLISTER RUST CONTROL FROM PENNSYLVANIA

Two New Counties Found with Pine Infection.

Mr. L. W. Hodgkins under date of July 18, writes that he has -

"Found blister rust (on pine) in Union County and in Center County today. The infection dated from 1925 to 1927. The infection is light and scattered, a few infections here and there. So far we have found it in a section about a half mile wide and two miles long. We attempted to connect the scattered spots up to some more heavily infected area but have not been successful so far.

"There are a great number of Ribes rotundifolium throughout the entire section so that once the disease gets a start it will do heavy damage in a short time."

Edit:- Union and Center Counties are both new for pine infections. Other counties in which pine were found infected with the blister rust in 1928 include Wayne in the northeast corner, Potter, Cameron, Clinton and Lycoming Counties in the north central part and Clarion County in the west. All of the six counties of 1928 infection were in the northern half of the State. A map showing these counties with pine infection was given in "Blister Rust News", for March, 1929, on page 33. Center and Union are in the center of the State joining Clinton and Lycoming on the South.

Blister Rust Spreading in Lycoming County, Pa.

Since coming to Williamsport, I have found blister rust in three widely separated locations on pines and in another place on Ribes. The latter place is in a State plantation about five feet west of English Center. One of the locations where blister rust was found was on native pines on private property, about three miles west of English Center. Blister rust "flags" were quite evident on the pines and the Ribes were quite heavily infected.

Another location is on the Williamsport Water Company's property. Here the rust extends over about a half acre and is coming from the wild black currant (Ribes americanum). This is a very thin leaf variety and was pretty heavily infected at the time we were there. I met the Superintendent, Mr. T. Keliher, who took us out to see the plantations where we found the rust. He stated he would have all the Ribes near the plantations eradicated.

The third location of the rust on pines is on native trees, which I understand are owned by a Gun Club, that controls about 5,000 acres. There are some very good stands of pines along the valleys. Young pines are coming in which are worth taking care of.

L. W. Hodgkins, Pa.

ERADICATION OF RIBES AROUND NURSERIES IN CONNECTICUT

We have just completed the eradication of Ribes around four nurseries in Connecticut. The work has been carried on under the direction of J. E. Riley Assistant Forest Pathologist at the Connecticut Agricultural Experiment Station. Mr. Riley had prepared enlarged geological maps of the areas around the nurseries. On these maps the 1500 foot area was definitely outlined and there was also a corresponding description.

Some of the disagreeable features of this eradication work have been the abundance of mosquitoes, blood sucking flies, cat briars, and dogs. Of course, some of these are to be expected in any kind of outside work in the woods. Fortunately, the weather has been so dry during this part of the work that the swamps, which are almost impassable at times, have quite solid footing. We were advised to keep out of one swamp because there was supposed to be quicksand present and a yoke of oxen were reported to have disappeared from sight about fifteen years ago. We did find a considerable layer of muck or humus apparently of indefinite depth. Mr. Stultz was bitten by a dog in the presence of its Italian owners, and on another occasion by a German police dog even though the owner was making an effort to call him off. This is more in the way of experience than the inspector around Horseheads, New York, had. We did not believe there were so many dogs in the country and that so many of them were ferocious. We were thankful for the size and strength of the chains in many instances. One big police dog leaped through the door at me while I was talking to his mistress and I thought I would be eaten before his master made him behave. He would not listen to his mistress and it is needless to say that I was frightened beyond description.

Generally the reaction by the people to the eradication of Ribes has been very favorable. Occasionally there have been humorous incidents. It is easier to explain to the children of the foreign born than to the elders. One woman was quite interested in the alternate host idea. She also asked, "What is these pines, a kind of a spruce?" When we mentioned the white-pine blister rust as a reason for pulling the currant, one person said, "Oh, I know, it is a kind of cough syrup." I suppose that she had reference to White Pine and Tar Syrup. Only one young woman persisted in following me around the place and really ordered me to stay off the premises. Of course there are a few who wonder why the Government or State has any right to make them give up the raising of currants. Some suggested that the nursery give up the pine raising business. One man even suggested that the Government kill the birds so that his fowls would get no more coccidiosis. Some people seem to be interested in some scrawny bush for the sake of argument while others attach a real sentiment to the plants. I hardly had the nerve to pull three black currants for one elderly lady who had brought the plants from her mother's place and had carefully watered the young plants. She said she had wanted the plants for years and had only recently been able to get them. She was so agreeable about the situation also. One man said that he would not let any one take up his plants unless they wore badges. His daughter said that he had waited at home three days for us. His plants were beyond our territory for pulling and so we missed this interesting situation.

We have found a large number of wild gooseberries, escaped cultivated red and wild American black currants within the areas worked. Ribes nigrum or the European black currant is practically absent from some localities while not many

miles away at another nursery we have found them in abundance. In the town of Stratford they were more common than the red currant. Some say that the berries are very fine for medicinal purposes. That can be taken for what it is worth. The amount of infection noted has been practically nil.

On the whole the work has been quite educational from the detailed knowledge of Ribes gained, additional botanical material observed, and experience in general. We have been asked many pathological questions both mycological and entomological. One question was about the "Asiatic fly". On the whole, people seem to know about the Japanese beetle and the like but they seem to have heard very little about the blister rust. Probably there is room for more newspaper publicity in regard to this pest. A few minutes talk over the radio might be helpful. We have found about 145 wild gooseberries and 265 European black currants.

C. Courson Zeliff and Walter A. Stultz, Conn.

BERKSHIRE NEWS

White pine weevil and pine aphid are unusually prevalent in the Berkshire Hills this season. For the past month we have averaged three or four calls a week from people who want information about these pests. They have been mistaken for blister rust and the frequency of the calls prompted us to write articles on these pests for the local papers. Since May we have been supplying an article each week for the Great Barrington Courier and the Lee Gleaner under the caption "Blister Rust Control".

* * *

In July, Agent Endersbee intercepted two white pines tied to the running board of an Ohio car that had spent a week in the Berkshires and was returning to the home State. One of the pines had a well developed 1925 canker. When told about blister rust the Ohio people very willingly disposed of the pines.

* * *

The Izaak Walton Club of Pittsfield, Massachusetts, is endeavoring to eradicate the Ribes from Wild Acres, their fish and game sanctuary, by means of membership "bees". Once a week the leaders have managed to entice from six to twenty men to the sanctuary for an evening's work. Ribes are averaging over 200 to the acre and the job in consequence isn't progressing very rapidly.

* * *

Camp Pontoosuc with 500 boys and girls from New York City asked for and were given a blister rust talk illustrated with lantern slides. Parents and friends of the campers swelled the audience to about 700.

W. J. Endersbee, Mass.

SIDE LIGHTS FROM RHODE ISLAND

Massachusetts Blister Rust workers may be interested to know that bee problems in the eradication of cultivated Ribes are not confined to their State alone. Rhode Island scouts have been experiencing some of the difficulties swarms of bees can be guaranteed to give when they are in the mood. We have recently purchased a smoke blower and two head nets, since stings were increasing to such an extent that the daily average of Ribes eradicated was decreasing. Black currant eradication work has been slowed up to quite an extent during the past month because of the bee problem, but from now on the boys hope to smoke their way to a prompt victory over these non-cooperators.

* * * *

The agents who have had Ribes compensation problems might be interested in a recent letter received by the Rhode Island Department of Agriculture. A woman who has had five cultivated black currants eradicated has figured out the value of these bushes to her during her lifetime, and thereby feels that she is asking a conservative price in requesting \$50.00 for the bushes. Fortunately the law under which we work allows us to eradicate Ribes nigrum without giving compensation. Otherwise we might have had difficulty in convincing the owner that her estimate was unreasonable.

* * * *

During my absence one day a man stormed into the office with a story that the blister rust crew had burned up his automobile, and in an outraged voice demanded satisfaction. When I returned to the office and received the report of the trouble I immediately journeyed to the man's property and found that the automobile referred to was an old piece of junk, a Ford of an early model, which had been discarded on an old rock pile without tires or a rear end and allowed to rust away. I was informed by the crew formen that cultivated black currants were found growing up into the car and since bees had built a hive on the front seat they had been forced to burn out the bees before eradicating the bushes, with the consequence that minor damage was done to the seat and top of the car. Once I informed the owner that I had investigated the complaint and sized up the situation correctly no further protest or demand for remuneration was made. I am wondering now what's next. In all my experience with blister rust work, I have found that it is best to give the blister rust crew the benefit of doubt in any complaint.

* * * *

The ravages of the European Corn Borer are so great that the entire State is "up in arms" over the situation. Although not planned, it is indeed fortunate that this year and next were selected to carry on the systematic eradication of cultivated black currants because the public appears to be in the most favorable mood to cooperate with the State in the control of plant diseases. The corn borer has shown them that prevention is even better than suppression. I believe this to be one of the chief reasons why we are receiving such whole-hearted cooperation this year.

A. W. Hurford, R. I.

BLISTER RUST ROADSIDE DEMONSTRATIONS IN NEW YORK STATE.

We have just completed retagging three of our permanent blister rust roadside demonstrations and placing two new demonstrations here in New York this spring. These are located as follows:

2 mi. S. of Pottersville	Warren Co. placed 1927.
1 " " " North Creek	" " " 1927
1 " " " Eldred	Sullivan Co. " 1928
5 " " " Wells towards Northville	" 1929
1 " from Conklingville Dam,	Saratoga Co. placed 1929.

Ordinarily the demonstration extends two or three hundred feet along the road. On either approach there is a sign reading:

LOOK
BLISTER RUST
AHEAD
_____arrow

These signs are approximately 26 x 32 inches. Black letters with red arrow on a white background.

As one proceeds along the road from either direction there is a poster reading:

BLISTER RUST
KILLS
WHITE PINE

Further on one reads the third

BLISTER RUST
HERE

Diseased trees have cards attached. About in the center of the demonstration there is a large sign 27 x 42 inches.

B L I S T E R R U S T
CAN BE CONTROLLED
Communicate with
The Blister Rust Agent at Your
Local Farm Bureau Office
or write Conservation Depent,
Albany, N. Y.

To one side, yet in a conspicuous place is erected a two by four on which is nailed a box containing literature. A suitable poster attached reads.

BULLETINS HERE
ON
BLISTER RUST
If interested Take One.

In addition to these signs, all infected trees have tags reading "Blister Rust is Killing This White Pine." And all dead trees as a result of blister rust have tags reading, "Blister Rust Killed This White Pine." We put from one to a dozen tags on each tree. Wherever any conspicuous trunk cankers appear, we tie white tags about the infected part reading "Blister Rust is Working Here."

On areas where eradication has not been done we place wooden markers near every Ribes, the markers reading:

GOOSEBERRY BUSH

HERE

or

CURRANT BUSH

HERE

The bushes are then also tagged.

I might mention at this time that the posters are of both cardboard and oil cloth; tacked on wooden standards with black moulding. The standards are held upright by two by fours, held securely in the ground. The two by fours are painted white while the mouldings and back of standards are black. Each area is retagged every year and the standards repainted while the posters are replaced. That is, we dress up each demonstration every spring as this refreshes it and makes it more attractive. Retagging is necessary every year since new trees become infected annually and infected trees of last year may be dead this year, which means changing the wording of the tag.

Perhaps I should also mention a few requisites for a good roadside demonstration. Here in New York we believe in adhering to the policy of placing demonstrations on areas where there is actually blister rust and in pine-growing regions. Although there is no set rule for selecting sites and material to use, nevertheless we try and make it a point to follow as closely as possible, the following procedure:

1. Permission should be gotten from the owners before placing a demonstration.
2. Area should be on a main traveled highway or where it will eventually be seen.
3. It should be on a straight away. Avoid steep hills or sharp curves. (The latter two are to prevent accidents that may reflect back on us).
4. There should be sufficient pine in the area to justify putting in the demonstration.
5. There ought to be lots of blister rust present in order to show how serious the disease is.

6. It is not necessary to have Ribes present. The land where we placed the two demonstrations this year were both eradicated. However, Ribes present do add a lot to the demonstration since it means tagging the bushes and placing markers by each bush.
7. Avoid as far as possible other billboards, signs, posters, buildings or anything that may have the tendency to detract from the demonstration.

The advantages of these roadside demonstrations are many. People interested can actually see the disease and learn how serious it is. Even though the travelers do not get out of their cars to study the problem, they at least learn that there is something that kills white pine. We have hundreds of testimonials with regards to these demonstrations. They have lead directly to a lot of cooperation. Many persons have written in to the office as a result of seeing them. Just this year while working on one of the areas we had cars bearing Canadian, Massachusetts, Connecticut and New Jersey licenses stop and inquire about the work. A good percent of the cars as they near the demonstration slow down and most invariably every head in the car will turn toward the area. Very frequently, those that become interested, stop, get out of their cars and study the labels and trees marked.

There is still a lot of room for extension work along this line. Only recently I was asked "Just what are you doing on blister rust these days"? and I replied "Still trying to convince folks."

George E. Stevens, N. Y.

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WHITE PINE BLISTER RUST EXHIBIT FOR THE SKOWHEGAN FAIR

The State Forestry Department will stage an exhibit of white pine blister rust and control methods at the Skowhegan fair, the week beginning August 12, it was announced Tuesday by W. O. Frost, who has charge of the control work in this State.

While this is not the first exhibit of the division at Maine fairs, it will be larger than any previous occasion. There will be displayed specimens of the disease on the two host plants and bulletin information concerning the control methods. Pine trees, 15 and 18 feet in height, will be taken to the fair grounds to give a comprehensive idea of the damage caused by the blister rust disease.

It is probable that the exhibit will be shown at some of the other fairs in the State this coming fall.

(Extract from the "Kennebec Journal", August 7, 1929.)

SEVERE OUTBREAK OF BIRCH LEAF MINER IN NEW ENGLAND

In the late summer of 1927, an extremely heavy outbreak of the European Birch Sawfly Leaf Miner (*Phyllotoma nemorata*) occurred in Maine, New Hampshire, and parts of Massachusetts. During the past two seasons, the outbreak has greatly increased in intensity and threatens to kill the white birch in New England.

The adult fly appears early in July, and lays its eggs in slits made on the edge of the leaves. The somewhat flat whitish grubs mine in the leaf causing the foliage in August to appear as if scorched by fire. Several other leaf miners attack birch, the mines starting near the center of the leaf, whereas the mines of this sawfly always start on the edge.

The Maine Forest Service is carrying on an intensive study of this insect and methods of control. Large numbers of parasites are being reared for distribution this fall; sprays and dusts are being tried out, and a study of control by forest management is being made.

Dr. H. B. Peirson, Forest Service, Augusta, Maine, is very anxious to obtain notes on the distribution of this pest, particularly from points west of the Connecticut River. Readers of the Blister Rust News are requested to be on the lookout for this pest and to send Dr. Peirson specimens of any birch leaves infested with this leaf miner which they may observe, together with the usual data on locality, extent of infestation, data observed, etc. Your cooperation in this matter will be greatly appreciated and extremely helpful.

E. C. F.

BLISTER RUST DISPLAY IN FRANKLIN COUNTY, MASS.

Mr. G. Stanley Doore, Agent in Franklin County, Mass., writes that he has been busy erecting blister rust displays at certain points in Franklin County where it would seem to be most in the public eye. One of the displays was put up near the pine at Lake Rohunta between Athol and Orange. The photograph shows a very fine white pine grove not very far from the beach.

Mr. Doore stated that the currants and gooseberries surrounding the Rohunta Inn were destroyed several years ago.

Mr. E. G. Woodward, Blister Rust Agent in New York, writes on July 27, that eradication work was progressing very well in his district. He had seven assistants at this time. He cites a case where one of his cooperators wanted the Ribes eradicators to destroy poison ivy as well.

BLISTER RUST NOTES FROM MINNESOTA

Minnesota has two heavy pine infection centers both along the eastern boundary of the State. One is at Duluth, the other near Taylor's Falls. Pine infection does not appear to be spreading as rapidly here as in the Eastern States due, no doubt, to unfavorable climatic conditions and to the fact that pine stands over the greater part of this State are scattered.

Teliospores were first found on Ribes prostratum, the skunk currant, on July 10.

A study of the Ribes plots indicate that under most conditions in this State re-eradication of Ribes will be necessary every five years.

Data from pine infection plots indicate 1924 as the year of greatest pine infection.

Donald Gray

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CONSUMPTION OF WHITE PINE IN WOOD-USING INDUSTRIES OF NEW YORK

A picture of the secondary wood-using industries of New York State is shown in a bulletin entitled, "Wood-Using Industries of New York", just issued (December 1928) by the New York State College of Forestry, Syracuse University. This bulletin shows that in the 14-year period between 1912 and 1926 the amount of wood used by these industries has dropped more than 50%. Softwood timber accounts for 53% of the total wood used. The Rocky Mountain and Pacific Coast States supply a large portion of these softwoods. Douglas fir, cypress, western yellow pine, red gum, southern yellow pine, consumed in New York exceed by more than 100 the total amount of wood grown locally that is used in our industries. One of the few woods that has increased in use is mahogany, and of course all of that is imported from foreign countries; in fact, mahogany ranks next to hemlock in furnishing material for the industries. But New York, even in the case of such a common tree as hemlock, only grows 1/5 of the amount needed. White pine which could be found in enormous quantities in almost every section of the State of New York only a few generations past, today supplies only 1/15 of the pine lumber used by the industries, the volume consumed in manufacture being only 50% of the records for 1919. The northern white pine and southern yellow pine are the two leading woods, supplying 37% of the total lumber consumption by the secondary industries. New York imports nearly 1/2 of the hard maple that goes into products of these industries in the State, and when it comes to spruce trees, which were plentiful in New York, the State is able to supply only about 1/8 of the demand.

(The above bulletin was written by Raymond J. Hoyle.)

COMPARATIVE STATEMENT SHOWING THE USE OF NORTHERN WHITE PINE WOOD IN NEW YORK, 1926, 1919 and 1912

(M ft. B.M.)

Year	Quantity used annually	Quantity grown in New York	Quantity grown out of New York
1926	151,212	9,462	141,750
1919	329,485	23,569	305,916
1912	422,686	158,109	264,577

Edit. If the blister rust control agents needed any additional incentive, other than the knowledge of destructiveness of the rust it could be found in the above table. The figures show how New York is becoming more and more dependent on other States for its northern white pine. The percentage of northern white pine received from outside sources has increased from 62.6 in 1912 to 93.8 in 1926.

COMPARATIVE STATEMENT SHOWING USE OF WESTERN WHITE PINE AND SUGAR PINE IN NEW YORK IN 1926, 1919, 1912
(M feet B.M.)

Year	Western white pine	Sugar pine
1926	9,197	5,143
1919	14,362	2,774
1912	3,935	1,647

TABLE SHOWING THE USE OF NORTHERN WHITE PINE AND ALL WOODS IN THE INDUSTRIES
IN NEW YORK IN 1926
(M Feet B. M.)

Industry	Quantity Northern white pine used	Total Quantity all woods used	Per cent White pine of all woods	Quantity Western White pine used	Quantity of Sugar pine used
General millwork	52,928	188,447	28.1	5,440	3,205
Boxes, packing fancy	58,729	143,920	40.8		
Furniture	400	80,563	0.5		
Crating	11,716	64,626	18.1	850	
Planing mill products	11,781	61,872	19.0		
Boat and ship building	2,338	41,394	5.6	24	266
Car construction	1,042	38,831	2.7		
Musical instruments	553	32,979	1.7		1,427
Caskets and coffins	1,194	18,423	6.5	1,225	
Miscellaneous	6,913	14,597	47.3	1,360	
Woodenware and novelties	50	12,210	0.4		
Professional and scientific instruments	38	11,480	0.3		
Baskets and fruit packages	25	11,220	0.2		
Tanks and silos	120	9,533	1.2		
Fixtures	127	9,011	1.4		100
Agricultural implements	117	8,231	1.4		
Refrigerators	170	7,868	2.1		
Picture frames and moulding	8	5,926	0.1		
Toys	38	4,527	0.8		
Vehicles	32	3,373	0.9		
Patterns and flasks	1,354	2,257	59.9	43	135
Pumps and piping	1,000	1,639	61.0		
Dairymen's, poulterer's and apiarist supplies	50	1,303	3.8	250	
Machine construction	50	1,288	3.9		
Trunks and suit cases	150	1,022	14.6		
Laundry appliances	135	865	15.6		
Elevators	145	722	20.1		
Sporting and athletic goods	0	795	0.0	0	15

There are 65 kinds of industries in New York using northern white pine, 14 using sugar pine and 10 using western white pine.

LIST OF INDUSTRIES IN NEW YORK USING NORTHERN WHITE PINE

Airplanes	Motor vehicles
Agricultural implements	Musical instruments
Automobile bodies	Office fixtures
Backing, pictures	Patterns
Baskets	Piano key beds
Battery boxes	Picture frames
Bee supplies	Pipe covering
Blinds	Plumbers' woodwork
Boat flooring	Playground equipment
Boxes	Porch columns
Buckets	Pumps
Burial boxes	Reels
Car construction	Refrigerators
Caskets	Sash
Ceiling	Scientific instruments
Clocks	Shade rollers
Doors	Ships
Drafting furniture	Siding
Drawing boards	Silos
Egg cases	Store fixtures
Elevators	Tanks
Fixtures	Threshers
Flooring	Toys
Foundry flasks	Trunks, boxes
Frames	Tubs
Furniture	Vehicles
Interior finish	Washing machines
Kitchen cabinets	Water pipe
Ladders	Well curbs
Laundry appliances	Wheelbarrows
Machine construction	Wire reels
Matches	Woodenware
Moulding	

LIST OF INDUSTRIES IN NEW YORK USING SUGAR PINE

Blinds	Organs
Doors	Patterns
Fixtures	Sash
Interior finish	Ships
Millwork, general	Sporting and athletic goods
Moldings	Trim
Musical instruments	Window frames

LIST OF INDUSTRIES IN NEW YORK USING WESTERN WHITE PINE

Airplanes	Caskets
Agricultural implements	Dairymen's supplies
Boxes	Matches
Car construction	Patterns and flasks
Crating	Ships

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HOW WHITE PINE CAME BACK IN PENNSYLVANIA

In the rolling plateau country of Clearfield County, Pennsylvania, near the village of Allport, is a beautiful stand of pure, even-aged white pine. While white pine occurs throughout the surrounding country, it is seldom in pure stand, being mixed with hardwoods and hemlock. To answer the question "What caused this block to seed entirely to white pine?", inquiries were made for the "old timer" that in every community is to be depended upon for historical data. The authority proved to be Mr. William Devinney of Allport, a pleasant young man of sixty that everyone calls "Bill".

In reply to our question, Mr. Devinney said: "Yes, I can tell you exactly how that pine came to be there for my father often told me the tale. When father was a boy of thirteen, 82 years ago, he plowed and harrowed the field where the pines now grow and sowed it to buckwheat. That was the first and last crop harvested. At that time this whole country hereabouts was covered with magnificent pines, for lumbering was just beginning. So the field quickly seeded to pine. Later, the land surrounding this stand was cleared and cultivated. If the owners were not constantly cutting out the little pines, all of the adjacent fields would now be seeded in from the pines where father sowed buckwheat. The owners must make a constant fight to keep their fields clean! And did you notice that house opposite the pines? A man who had bad lung trouble built that there so as to get the breath of the pines."

Mr. Devinney was asked about the old logging days. His eyes kindled and as he talked, he painted a vivid picture of times forever gone. "When I was a young fellow I worked in the woods. I was a sawyer because that was the best job and the best pay. I never did like teaming. There were real pines here then and we worked from six to six. Sometimes the pines were so tall and thick on the ground we had to fell every other tree and skid out the logs, so as to get room to throw the other half of the stand. Otherwise we would have smashed up the trunks. We did not cut close and we wasted a lot of pine. Stumps were cut shoulder high, and each tree was butted ten or twelve feet or even fifteen feet if the heart looked a bit red or shaky. Those were the days when logs were logs. If the fires had not taken all we left, we would still have plenty of pine. And pine comes back now if it's given a chance."

S.B.D.

RELATIVE COSTS OF EXTENSION METHODS WHICH INFLUENCE CHANGES IN

FARM AND HOME PRACTICES

By H. J. Baker and M. C. Wilson

A summary of the material in this bulletin is here given.

"Data are presented showing the percentages of extension funds of 17 States being expended upon the various means and agencies employed in extension teaching. For the first time it is possible to consider the returns from various types of teaching effort in the light of costs.

"Time of extension workers constitutes the largest cost item and has a close relationship to total costs of extension methods. The time distribution standards set up for the different groups of extension workers should prove of great assistance to supervisory officers and to individual workers.

"Measured in terms of changes in farm and home practices, there is a wide range in effectiveness of teaching means and agencies from a cost standpoint. The cheapest means of influencing the adoption of improved practices is the news service, which yields fifteen times the results per unit of expenditure yielded by extension exhibits. Other methods yielding above average returns per unit of expenditure are circular letters, office calls, general meetings, bulletins, and farm and home visits.

"Considering types of methods, the printed word gives largest returns per unit of cost, followed by meetings other than method demonstration and leader training, and by personal-service methods. The cost of influencing adoption of practices by means of objective methods like method-and result demonstrations, leader-training meetings, and exhibits is approximately twice that of the printed word, meetings, or personal service methods.

"Although local conditions may make it necessary to employ a more expensive means in order to accomplish the desired result it is frequently possible to substitute an equally effective, but less expensive, means and thereby save time and money. Each particular task to be undertaken should be analyzed, and the means and agencies should be selected which will do the work most effectively considering expected results and estimated costs.

"Without attempting to prescribe the optimum percentages of funds which should be expended on the different extension-teaching means, a basis is provided for more intelligent direction of extension effort. Progress in extension teaching depends to a very great extent upon wise use of time by individual workers. Even the least effective teaching method will enlarge the total of extension accomplishment if it occupies time not otherwise profitably employed."

NOTE TO AGENTS:

It is believed that the above technical bulletin on the cost of extension methods will be found of great interest. Those who desire a copy can secure one by writing the Director of Information, Department of Agriculture, Washington, D. C. for Technical Bulletin #125.

R.G.P.

AMONG OURSELVES

Mr. Roy Calhoun has been assigned to the position of Acting Head Clerk of the Washington Office in the absence of Mr. Avery, who is temporarily engaged on other work.

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Introducing Mr. Paul B. Mott of State Office Bldg., Trenton, N. J., a new member of the blister rust control family. Mr. Mott, who was appointed as agent and State leader in New Jersey on July 1, has the B.S.C. degree in Agriculture from Rutgers University, New Brunswick, New Jersey. He graduated in 1926 with academic honors, and special honors in Plant Pathology.

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Introducing Mr. Lawrence B. Ritter, % Commissioner of Forestry and Fire Prevention, St. Paul, Minn., a new member of the blister rust control force in the East. Mr. Ritter, who was appointed as agent and State leader on July 1 for work in Minnesota, received the B.S. degree in Forestry from the University of Minnesota, March, 1929. During field seasons of 1927 and 1928 he was under appointment with the Office of Blister Rust Control, working in the western States on control reconnaissance.

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MISSING CHEMIST ESCAPES GLACIER

U. S. Employee, Feared Lost in Treacherous Ice, Walks Two Days to Safety.

Swim, Oregon, August 6. - Rene D'Urbal, 32, United States Department of Agriculture chemist, walked into this town late yesterday tired and hungry, after having spent two days in the glacier region without food or shelter.

Four parties of men had sought D'Urbal since dawn of the 5th. He left the Government camp early Aug. 4 to photograph glacier formations and was to have returned that afternoon.

D'Urbal said he lost his way as he reached the crest of White River Glacier. In trying to retrace his foot-tracks to the Swim camp he went down the opposite side of the mountain, traversing the treacherous Reed Glacier and finally descending to the Sandy River. Once at the river bank he followed its course to Swim.

D'Urbal walked most of the time, he said, and ate only huckleberries.

D'Urbal, in charge of the blister rust control camp near Swim, set out Sunday to take pictures of the glacier. He was to have returned at 6 P.M. When he did not appear during the night alarm was felt and all available men took the field in a search for him.

(Extract from the "Washington Star", August 6, 1929.)

Mrs. Wilda Dixon received an appointment as Assistant Clerk Stenographer in the Washington Office on July 29th, being transferred from the Signal Corps Laboratory of the War Department.

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Miss Dorothy L. Anderson was appointed agent at Corvallis, Oregon, July 16th to take the place of Mrs. Myrtle Brierley who recently resigned.

P U B L I C A T I O N S

Blister Rust

Anon. - White Pine Blister Rust Quarantine Regulations Revised. U. S. Department of Agriculture. Plant Quarantine and Control Administration Leaflet 6 pp., 1928. Excerpt in The Review of Applied Mycology (Kew, England) Vol. 7, pt. 12, Dec. 1928, pp. 815-816.

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Detwiler, S. B. Developments in White Pine Blister Rust Control in the United States. Journal Econ. Entom. 21, 3 p. 476-484, 1928. Excerpts in The Review of Applied Mycology (Kew, England) Vol. 7, pt. 12, Dec. 1928, p. 813,814.

Northern White Pine

Spaulding, Perley. Decay of Slash of Northern White Pine in Southern New England. U. S. Dept. of Agr. Technical Bulletin No. 132, July, 1929.

Western White Pine

Stillinger, C. R. Dasyscypha fusco-sanguinea Rehm on Western White Pine, Pinus monticola, Dougl. Phytopathology, Vol. 19, No. 6, pp. 575-584, June, 1929.



BLISTER RUST NEWS



September, 1929.

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BUREAU of PLANT INDUSTRY
Office of Blister Rust Control



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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

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and the Cooperating States.

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WHITE PINE INFECTION NEAR ELK RIVER, IDAHO

On July 6, 1929, E. L. Joy and R. L. Pierson discovered a young blister rust canker on white pine at the junction of Deep and Elk creeks, 6 miles south of Elk River, Idaho. Subsequent inspection in this vicinity revealed four more infected pines with one canker each. It is estimated that 1% of the pines are infected. The pine infection extended for approximately 3/4 of a mile along the stream. There was no apparent center of infection.

Analysis of the cankers showed that very probably pine infection originated here in 1923 and that a second wave occurred in 1927. Contrary to conditions at Newman Lake, where several hundred cankers originated in 1927 in association with G. inermis, the pines at Deep Creek showed only 2 cankers of 1927 origin, although they were associated with R. petiolare and other Ribes species were abundant.

Infection was found on all four Ribes species associated: R. petiolare, G. irrigua, R. viscosissimum, and R. lacustre. Infection was quite abundant, mostly in the uredinial stage, with telia present in small quantities. R. viscosissimum and G. irrigua were found infected on the bare hillsides.

Abundant Ribes infection was found at this point in 1928. It is the intention of the scouting project to re-inspect this season all Ribes infections found in Idaho in 1928. Discovery of rust in the same locality two years in succession will indicate close proximity to pine infection. If Ribes, infected in 1928, fail to show infection in 1929, indications will be that the aecial source is not in the immediate vicinity.

H. N. Putnam

(Extract from Western Blister Rust News Letter, Vol. 4, No. 7, July 15, 1929)

SPLENDID COOPERATION IN R. I.

It has been interesting to note throughout the season many examples of splendid cooperation on the part of the public toward the State crew scouting for and eradicating cultivated black currants. Owners of cultivated black currants have in most cases given up their bushes without protest once the work is understood.

I was visited September 6th by a Mr. Thomas Scott of Pawtucket, R. I. He stated that he had heard of the black currant eradication activities going on in a neighboring town and as he possessed fifty large cultivated black currants he wanted to know what it was all about. After blister rust control was explained, he declared that even if we were not planning to scout his town immediately, he would not want to own such pest plants and was going right home to start pulling them up. It is some job to destroy so many large bushes and such cooperation means something. Mr. Scott also told me that he planned to tell all his neighbors about the black currant menace,

One man recently visited, possessed 113 large, healthy, cultivated black currants. He declared that the income from the currants, which he sold at twenty-five cents a quart, paid his annual property tax of about \$100.00. However, after reading the State black currant eradication notice he offered no objection and the State men proceeded to destroy the bushes while the owner discussed various plant pests with the foreman.

The educational work through the press, posters, talks, etc., followed by the systematic eradication of all cultivated black currants now being carried on, has created a respect and cooperative attitude on the part of the public, which indicates not only successful black currant eradication, but public acceptance of blister rust control as part of a forest protection policy.

A. W. Hurford, R. I.

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NEW AREA OF PINE INFECTION IN NORTH IDAHO

Mr. S. N. Wyckoff in charge of western blister rust control work, in a letter dated August 27, writes concerning this new infection area:

"Our men have recently found a new area of pine infection in north Idaho, south and west of Elk River on Long Meadow Creek, T. 39 N., R. 1 E., Section 14. A very preliminary survey of the area showed 160 cankers of which 11 have fruited once, 3 have fruited two times and 5 several times. There are also 50 cankers in the pycnial stage and many others in the juvenile stage. One interesting point regarding the area is that it contains only Ribes lacustre and R. viscosissimum. There is no R. petiolare in the vicinity and there is a little Grossularia inermis a mile and a half from what now appears to be the limit of the area."

QUARTETTE OF RIBES SPECIES FOUND IN CUMMINGTON, MASS.

It has been said that "variety is the spice of life." This old adage rings especially true to the "Ribes hounds" who have experienced the monotony of finding only two or possibly three species of Ribes in their particular territory. In this section, we normally find not more than two or three species in any one area. Recently, however, one of our foremen and a cooperator were working a small swamp in the town of Cummington in Hampshire County and before the project was completed, specimens of four Ribes species had been recorded. These were R. glandulosum, R. triste, R. americanum, and R. hirtellum. Of course, the skunk currant is a common species in certain sections of Massachusetts but it cannot be said that it is general in this section, although it is often encountered. The swamp red currant (R. triste) is only an occasional "find." However, it is more often found here than in any other section.

Although the finding of a quartette of Ribes species on the one area is unusual for us, this is one of the few districts where it would be possible to find specimens of all the seven species native to Massachusetts. This is due to the fact that Ribes lacustre*, the prickly-stemmed currant, has only been found in a few instances in the State.

G. S. Doore, Mass.

*Note:- R. lacustre found in Lenox, Berkshire County, Mass., August 12, 1929. Have also found triste, glandulosum, americanum, hirtellum, cynosbati and vulgare this year.

W. J. Endersbee, Mass.

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ENTIRE BOARD OF SELECTMEN ON FIELD TRIP

For the first time, since I started work in Grafton and Coos Counties, I have had the happy experience of having the entire Board of Selectmen out in the field to watch the blister rust crew at work. At Thornton, N. H., the town officers have shown an eager willingness to cooperate in our control program. On many occasions they have given me their time for various conferences and when I suggested that they make a trip into the field to learn something about our eradication methods they came in a body and stayed the entire forenoon watching the crew pull Ribes.

This is the first year that the town of Thornton has cooperated in blister rust control so I feel quite elated to know that the interests of the Selectmen are akin to ours.

T. L. Kane, N. H.

MASSACHUSETTS CONTINUES EXPERIMENTS ON THE
CHEMICAL ERADICATION OF SKUNK CURRANTS

Experimental work on the chemical eradication of skunk currants was continued this season in northern Worcester County. The first work was to make a second check on the plots sprayed last season (July, 1928). On the first check, which was made in September, 1928, it was found that on two of the plots 81% of the original live stem had been killed, and on the other two plots 73% and 68% respectively. However, at that time, sprouting from live roots and new growth from terminal buds that had survived, had taken place. The second check on these plots was made during June of this year and it appears that a large number of these sprouts and also some of the weakened plants were not able to survive the winter. This is the case especially in those parts of the plots which were very wet. On two of the plots the amount of live stem was materially reduced from that found on the first check. These plots are located on a very wet area. On the third and fourth plots the new growth has been vigorous so that there is a decided increase in the amount of live stem over that found on the first check. The following table gives the results of the spraying on these four plots to date:

		<u>Plot Number</u>			
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Original live stem	(July, 1928)	3364'	1885'	7050'	3953'
Total live stem on first check	(Sept., 1928)	700'	415'	2351'	1492'
Total live stem on second check	(July, 1929)	411'	165'	3563'	3077'

At the time of the second check of these plots scores of seedlings were noticed on parts of the plots.

In addition to the four plots referred to above, three other plots were sprayed during the latter part of September, 1928. A first check of these three plots was made on May 15, 1929. These plots were located on high, ledgy ground on the side of Wachusett Mountain in the town of Princeton. At the time they were sprayed with sodium chlorate most of the leaves of the Ribes on two of the plots had fallen and on the third plot the Ribes were absolutely leafless. Not a live stem was found on the plot when the check was made this spring - 100% kill.

In all of the 1928 work, two solutions were used. One was a solution of calcium chloride and the other was a combination of calcium chloride and sodium chlorate. In each instance, whale oil soap was added as a spreader and sticker. From the checks which have been made to date, it is not possible to detect any appreciable difference in the effectiveness or lack of effectiveness of the two solutions used.

This spring, plans were made to continue the spraying and to try three new chemicals which have given particularly promising results in the western work. One of these is magnesium chloride; the second, a new Ribicide discovered by Mr. Offord who is connected with the western control program; and the third, a new commercial weed killer known by the trade name "Atlacide", a mixture of sodium chlorate and calcium chloride which forms a high percentage of calcium chlorate when dissolved in water. Three new plots were sprayed last month (July) and three other plots will be sprayed late in the summer or in the fall.

To date, none of the experiments, including those started in 1923, are sufficiently mature to permit of definite statements as to effectiveness. The one series in which a 100% kill was obtained is of particular interest, however. It is anticipated that the fall sprayings this season will indicate whether the late season application was responsible for the unusual kill. There may be other factors that contributed to the successful results in this instance.

William Clave, Mass.

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MR. G. B. POSEY RETURNS FROM TRIP THROUGH THE LAKE STATES

Mr. Posey who left Washington July 16th for a trip through the Lake States, returned the 15th of August. He visited the three State Leaders in the Lake States (Minnesota, Wisconsin and Michigan), Lawrence B. Ritter, H. J. Ninman and D. J. Stouffer. In Minnesota, Mr. Posey visited the Rush Lake Area. In Wisconsin, he visited the heavy infection area at the Markley property in Barron County. In company with Mr. Ninman, and Mr. E. L. Chambers, State Entomologist, scouting for blister rust was carried on throughout the whole northern part of Wisconsin. No new infection centers were found, however. In Michigan, scouting was carried on in the northern and eastern sections of the lower peninsula in company with Mr. Stouffer, and in the upper peninsula as far west as Marquette County. An infection center was found on pine in the upper peninsula for the first time, namely, near Ishpeming, Marquette County.

R.G.P.

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SURVEY FOR RIBES NIGRUM ON BLOCK ISLAND, R. I.

It may be of interest to know that we found no cultivated black currants on Block Island during our recent survey. We located twenty-two small plantings of other cultivated Ribes, but none were found to be infected nor very near white pine plantings. It was interesting to know that cultivated Ribes do not thrive on the Island. The existing bushes were in a stunted condition and appeared to be gradually dying. We scouted all properties on the Island, 600 in number.

We did not have time to make a systematic search for wild Ribes while at Block Island. However, from past visits there and my scouting around on this last trip, I do not believe that any wild Ribes are growing there. It is not the Ribes type of land, and what stone wall scouting, etc. I did, revealed no bushes.

A. W. Hurford, R. I.

LARGE RIBES BUSH ERADICATED

If there has been a taller bush than the one described below, destroyed this season, I would like to hear of it.

Leader Luke Sheldon's crew while working in the town of Chester, Warren County, N. Y., destroyed a Ribes cynosbati 12 feet high, with a total of 66 feet of leaf bearing stem. It had three main stems with 25, 24 and 17 ft. of leaf bearing stem, respectively.

Leader Sheldon has had some experience with large Ribes this season as he used a horse a number of days on eradication work in the town of Luzerne, N. Y., and I will tell the world they were one-horse bushes too.

E. G. Woodward, N. Y.

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ILLINOIS SAVES REMNANT OF ITS NORTHERN WHITE PINE FORESTS

In establishing the White Pine Grove, a State park opened to the public in 1928, Illinois has given protection to a stand of northern white pine that is almost the only one remaining in the State. The grove is situated in Ogle County, about 7 miles from Polo. The Chicago and Iowa Trail bounds it on the south, and a little to the north of it is the main line of the Burlington Railroad from Chicago to St. Paul. Purchase by the State of this area of 283 acres, late in 1927, was the outcome of 30 years' agitation.

The 193-acre tract occupied by northern white pine lies at an elevation of 950 feet. Its soil is a rather deep sandy loam and is fairly well supplied with water. The trees are about 80 years old. Some of them have attained a height of 90 feet and a diameter of 27 inches. State Forester Miller expects that the cessation of grazing will result in the spreading of the pine to neighboring areas. His management plan includes setting pine transplants in openings, releasing young pines by removing overtopping hardwoods, and removing Ribes for protection from white pine blister rust.

(Extract from the "Forest Worker," July, 1929, p. 4)

Note:- This State park was inspected by Mr. Detwiler in 1927. Numerous and large wild Ribes bushes were present but no blister rust was found. State Forester Miller is having the Ribes bushes eradicated by the caretaker of the Park.

R.G.P.

HATFIELD, MASS., PROTECTS WHITE PINE ON WATERSHEDS

There recently appeared in the "Daily Hampshire Gazette" a very interesting article on the work which is being done in the town of Hatfield to protect the white pine reproduction on their watersheds. This article reads in part as follows:

"The town of Hatfield should be congratulated upon the measures which are being taken to protect the white pine reproduction on their watersheds. Samuel Bradford, State Inspector in charge of the eradication of white-pine blister rust under the supervision of County Blister Rust Agent R. E. Wheeler, and a crew of men in charge of Water Commissioner Lawrence A. Deinlein, are at work uprooting the gooseberry and black currant bushes which are growing on the watersheds.

"In one day alone the crew removed 11,000 bushes, mostly gooseberry, which were from two inches to three feet high. Within 900 feet of these bushes were acres of white pine. More than fifty per cent of these bushes were diseased, and many of the young pine trees showed signs of the blister rust. ****.

"The Hatfield watersheds cover about 117 acres, which include a mixture of hard woods, hemlocks and white pines. In some places white pine is in pure stands, and some of the virgin pine trees stand 125 feet high, and would cut over 1000 board feet to the tree. To date the crew has covered about thirty acres of this territory in the blister rust work. Hatfield should be proud of its watersheds, and it would behoove all private owners of white pine to take advantage of the assistance offered by the Federal and State Departments of Agriculture to eradicate their lands of currant and gooseberry bushes, so as to protect the young white pine reproduction, which will represent the future timber supply of the section. ****."

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PROGRESS OF BLACK CURRANT ERADICATION IN R. I.

Due to the nature of the work this year in scouting for cultivated black currants it has been felt that fewer men working a longer period of time would obtain better results. Since April 22 when the crew work started, a four-man crew has been employed. To date they have eradicated about five thousand cultivated black currant bushes in fourteen different townships. Eastern sections of a few of these townships furthest removed from pine areas have not been completed as yet, as the plan of work this year has been to carry on a systematic survey nearest valuable pine districts.

Work during the remainder of the year, through September and October, will be conducted by a three-man crew. Under available funds this allows scouting to be continued until October 26.

A. W. Hurford, R. I.

BLISTER RUST CONTROL INSPECTION TRIP

During the early part of August, I spent five pleasant and profitable days on field inspection of blister rust control in company with Director R. D. Forbes of the Allegheny Experiment Station, District Forester Joseph C. Kircher of the Eastern District, Forest Service, and Dr. W. A. McCubbin, pathologist of the Bureau of Plant Industry of the Pennsylvania Department of Agriculture.

During the trip we were joined by Dr. H. H. York of the New York Conservation Commission, and Mr. R. M. Evans, Assistant District Forester, Forest Service. Dr. McCubbin has contributed a report of his observations on this trip which covers the matter so well that there is little to be added. Mr. Kircher has written:

"I have just returned from my trip to New England and I want to take this occasion to thank you for the most interesting trip which we had during the early part of August to see the blister rust in Pennsylvania and New York. Not only was it exceedingly interesting to me, but I feel that I learned enough about blister rust so as to recognize it on the National Forests. The trip was decidedly worth while and the information which I gathered will be very useful in my future work in white pine."

My own observations are (1) that the blister rust infection in white pine plantations at Wyckoff Run in Pennsylvania was as heavy as in any pine areas I have seen in the Eastern United States where the rust has been present for a comparable period. Also Ribes appear to be as numerous as in any other section of the Northeast. (2) In the ten years' time since I first visited the pine areas of Warren County, New York, the development of blister rust in areas where Ribes have not been eradicated has resulted in noticeable decrease of pine reproduction over extensive areas. On adjacent areas where the Ribes have been eradicated during the past ten years, the results of control in protecting white pine reproduction and pole stands are striking.

During the trip the collaborators made many valuable suggestions and showed such sympathetic interest in the control work that it was a source of much help and encouragement. It is a pleasure, therefore, to take this method of acknowledging my debt to them.

S. B. Detwiler

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Mr. W. O. Frost, Maine State Leader, received a letter during the summer from Mr. John M. Briscoe, Professor of Forestry at the University of Maine, Orono, requesting specimens of the blister rust on pine and Ribes. The specimens were to be used by Mr. Briscoe in instructional work he was carrying on, on the subject of forestry, before the boys at the East Winthrop Y. M. C. A. Camp.

The Office appreciates these requests for assistance and is always glad to comply with them.

R. G. P.

SOME OBSERVATIONS, CONCERNING BLISTER RUST, MADE ON A RECENT
TRIP THROUGH NEW YORK AND PENNSYLVANIA

This trip was arranged by the Federal Office of Blister Rust Control for various State cooperators and forestry officials. There were present on the trip besides local men, S. B. Detwiler, Messrs. Forbes, Kircher, and Evans of the Forest Service, Dr. H. H. York of the New York Conservation Department and the writer. The itinerary commenced August 8 at Driftwood, Pennsylvania, at which place we examined the disease in the Wyckoff Run Section, noting there the high percentage of the disease in the pines, the abundance of Ribes, the Ribes still growing in an area which had been eradicated and the appearance of considerable number of seedling Ribes.

A short visit was paid to the Scotch pine plantings near Woodgate at the Masonic Home, and we had an opportunity to see the damage done by the Woodgate rust. Many of the trees were badly stunted and both old and young trees were observed on which there were literally thousands of rust galls. In this Scotch pine plantation we had a chance to compare, to some extent, the growth of Scotch, Austrian and white pine planted over 50 years ago. While the Scotch pine has produced better trees than it normally does in most parts of the country my judgment is that the white pine is much superior even when the Scotch pine is at its best.

We next visited the Lake George region, August 9, where we observed the white pine blister rust slowly killing a great percentage of the large pine trees on a private estate. The cankers which are thus gradually destroying these trees have reached the trunk largely from half way to three quarters of the way to the top. They were, of course, started before eradication took place about 10 years ago. The eradication was fairly successful and a good deal of reproduction has been coming in since that time. However, we were able to find seedling garden red currants and quite a few wild Ribes from which the young pines were receiving blister rust in a very damaging manner. The conditions here indicated the necessity of re-eradication to give continuous protection. On this date, August 9, we also examined a plantation of red pines. On part of the area these pines were growing very successfully but other sections which had been planted on old fields were very poor. Dr. York pointed out a certain brittleness of the branches which was connected with discolorations in the wood. The cause of this abnormality is unknown.

On August 10, we visited the Remington Estate near Chestertown. Here an area of old pines naturally seeded and well eradicated of Ribes when the blister rust first appeared there, has not been affected by the disease. On adjacent areas, however, a fine stand of seedling pines in an area which has not been eradicated of Ribes shows a large mortality from blister rust due to the numerous Ribes.

An area of particular interest was a large hillside reproduction of white pines in which the Ribes have never been eradicated. There were numerous Ribes here several years ago and disease has made great inroads on the young pine stand. There are many places where the disease has destroyed the pines

completely in a circle around some Ribes center. It is curious to note that this area shows evidence that the Ribes themselves are fast disappearing. We had considerable discussion on the cause of this disappearance and the general conclusion was that the rust itself was the principal factor assisted perhaps by insect defoliation, foliage disease, browsing by animals and winter injury following second growth after defoliation.

In this area also, we had an opportunity to check the disease condition now present on two sections, one of which had been eradicated of Ribes while the other had not. In the section where the Ribes had been eradicated only 3 or 4 recent cankers could be found on young pines and these are attributable to a couple of Ribes bushes which have grown from seedlings since the eradication which was in 1918. On the area where the Ribes had not been eradicated the young pines are affected by blister rust up to 40 or 50 per cent.

A particularly fine stand of white pines belonging to Mr. Starbuck was seen near Chestertown. This stand was very dense and though only 49 years old was about 70 feet in height with very straight clean trunks. Although the stand is too dense for further rapid growth it gives one an idea of what white pine can be at its best. Here as well as in the Remington plantation the ultimate effect of weevil injury was observed. Although quite a high percentage of the pines in both cases had been attacked by weevil one or more times, the trunks have seemed to straighten so that the crook has almost been obliterated. While the grain of boards made from the trunks at this point is likely to show irregularity there can be no question that the weevil in these cases has done but little permanent damage to the timber stand. A further visit was made to a pine reproduction area near Horicon which some years ago was covered with young pines seeded in from numerous larger trees scattered along the base of the hill. At the present time these young pines have practically disappeared, having been wiped out completely by blister rust from Ribes bushes which the owner refused to eradicate.

The outstanding features observed on this trip were as follows: The killing of young pines in the Wyckoff Run Area; the numerous cankers on old pines where the disease has been of long standing, the mortality in old trees resulting from this infection; the necessity for re-eradication where Ribes are numerous and the forest open enough to allow their growth; the success of eradication where it is well carried out; the tendency towards the destruction of the Ribes hosts as well as the pines; and the total destruction of reproduction that can be brought about by even a few Ribes bushes allowed to remain in the vicinity.

Dr. W. A. McCubbin. Pa.

NEW SPECIES OF CURRANT DESCRIBED FROM SAN DIEGO COUNTY, CALIF.

Mr. Ira L. Wiggins in "Contributions from the Dudley Herbarium of Stanford University", reports on "Four New Plants from San Diego County, California". One of these plants Mr. Wiggins describes as Ribes canthariformis, sp. nov. This currant, he states, stands near Ribes malvaceum Smith and R. indecorum Estw., but it differs from both of these species more than they differ from each other. He writes:

"The very short, broad hypanthium, the strong purple veining of the sepals and petals, the deeply divided style, the compact, crowded raceme, and the thin, non-rugose, sparsely glandular leaves strikingly separate it from these two species".

This currant is a much-branched, unarmed shrub, 1-2 meters high, with young twigs cinnamon brown. The type is in the Dudley Herbarium, No. 163269, collected in chaparral on a northeast slope near Moreno Dam, San Diego County, California, Wiggins 2399, 14 April, 1927.

R. G. P.

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RIBES ERADICATION AROUND THE SAVENAC NURSERY, HAUGAN, MONTANA

Work in Montana during July consisted of Ribes re-eradication in the vicinity of Savenac Nursery, Haugan, Montana. A crew of six men has been engaged upon this work. One hundred acres have been worked over by means of hand eradication and sixty-one acres by chemical eradication. Results show that the work done in 1928 was very effective on Ribes petiolare but much less so on Grossularia inermis. The Forest Service Ranger stationed at the Savenac Nursery is burning over the stream type areas following spraying and consequent death of the Ribes bushes. This method will be followed up next year to observe its final effectiveness.

(Extract from "Report of Work", Western Branch, Office of Blister Rust Control, July, 1929.)

Note:- The Forest Service has supplied us with the following interesting data concerning the Savenac Nursery:

"The Savenac Nursery is stocked with approximately 10 million trees, of which more than 6 million are white pine. This represents the normal capacity of the nursery. The nursery produces annually 3 million trees. During the calendar year 1928, the number of trees available for distribution as planting stock was reduced by about 2 million chiefly by a terrific hailstorm followed by a cloudburst that struck the nursery. The stock actually distributed was as follows:

	No. of M
Engelmann Spruce	163.8
Western White Pine	224.4
Western Yellow Pine	583.6
Norway Spruce	<u>19.5</u>
Total	991.3

R. G. P.

MAINE HAS OUTDOOR DEMONSTRATION AT SKOWHEGAN FAIR

MAINE FOREST SERVICE
WHITE PINE BLISTER RUST DEMONSTRATION HERE

LOOK
BLISTER RUST
AHEAD

PROTECT YOUR PINES
By Pulling Up All
Gooseberry and Currant
Bushes Within 900 Feet.

BLISTER RUST
CAN BE
CONTROLLED

BLISTER RUST KILLS
WHITE PINE

The Skowhegan Fair at Skowhegan, Maine, was a howling success so far as blister rust control was concerned, demonstrations being given to over 600 individuals.

Mr. W. O. Frost, State Leader, was highly responsible for the plans, location and arrangement of the exhibit. Many comments were made over the artistic and natural arrangement of the same. Practically all of Sunday the 11th and Monday the 12th, were used in procuring and arranging the material.

This exhibit was a pioneer as well as a success, being the first that was placed out-of-doors. The specimens used were procured in the town of Skowhegan. There were about 45 specimens of diseased white pines used as well as about 14 specimens of Ribes consisting of five different species. The exhibit was arranged in the form of a square. The larger pine, 12 to 18 feet, were arranged on the outside with smaller ones inserted between and in the center. The floor was composed of pine duff, rocks and moss. Ribes were planted among the pines as well as along the front facing the Midway. Riker mounts of infected leaves were used for demonstration purposes. Specimens of the aecial stage were also used, and attached to each fruiting specimen was a small tube of the aeciospores.

The exhibit was so placed that it could be seen from the Midway and from the automobile entrance. On coming through the entrance the pines were the first articles noticed. In fact, they could even be seen from outside of the Fair Grounds.

At the top of this page the arrangement of the posters can be seen. Besides these, there was another poster facing the Midway that showed what had been done from 1917-1923, inclusive.

Red and yellow tags "This is a Blister Rust Canker" and "Blister Rust is Killing this White Pine" were profusely used. This exhibit was advertised in local and State papers. Another feature was a cut on the back of the program each day. This read as follows:

PINE OWNERS
Don't Fail to See the
WHITE PINE
BLISTER RUST
DEMONSTRATION
Near the Live Stock Exhibits.

The temporary agents were very helpful in obtaining material and assisting in carrying out Mr. Frost's plans and arrangements.

John MacG. White, Me.

SUCCESSFUL RIBES PULLING CONTEST IN VERMONT

In June, I started a Ribes pulling contest among the rural schools of the town of Middlebury, Addison County, Vt. One school in particular was located in a favorable pine section and the children had only to cross a field to be in the pines. When I called to check up on the Ribes, I found the contest had gained such real momentum that the number of Ribes reported pulled by several of the children seemed rather out of reason. However, before awarding the prize we did some more checking and found that they had not exaggerated. It was a girl who won the prize. She claimed over five hundred Ribes destroyed, and when I stopped at the farm to see them her father left his chores to proudly show where she had piled them in the pasture adjoining the pine lot.

There were Ribes piled in the fence corners around the school and one boy had stacked his in the woodshed. They found Ribes on lots whose owners had reported doing their own eradication work. Everyone seemed to know of the contest and it created interest in some quarters where it had, at first, been lacking, and I believe that it helped materially in securing the cooperation of a high percentage of pine owners of this town in the control program.

W. E. Bradder, Vt.

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RIBES ERADICATION IN OREGON

The eradication crew, after establishing camp at the end of June, definitely began operations on the Still Creek area, Clackamas County, July 1st. It is hoped that the entire area can be completed during this season. Much time was spent during the month in inspecting pines and Ribes for white pine blister rust. In this work Mr. Darker of the Arnold Arboretum gave valuable assistance. Several areas where there is an excellent association of Ribes bracteosum with the pines, were located for future inspection.

Messrs. Allanson, Wyckoff and Lachmund visited the Rhododendron infection area. Messrs. Offord, d'Urbal and the writer spent considerable time in locating areas suitable for the establishment of chemical eradication plots. The following species are represented: R. bracteosum, R. lacust-e, R. triste, R. sanguineum and G. watsoniana. The R. sanguineum plot was located by Mr. Riley and the writer on an inspection trip to the Santiam region, near Detroit.

L. N. Goodding, Ore.

(Extract from "Report of Work," Western Branch, Office of Blister Rust Control, July, 1929.)

BLISTER RUST CONTROL WORK IN CALIFORNIA

Although at present no blister rust has been found in California, work is being carried on in that State along several lines so that when the blister rust is discovered, the experimental phase of the work will have been finished and large scale control work can be carried on immediately. The following is an extract from the "Report of Work", Western Branch, Office of Blister Rust Control, July, 1929:

"Cultivated Black Currant Eradication: Root reports Santa Clara County as completed with a total of 20 plantings, comprising 133 bushes eradicated. The northern part of Los Angeles County has been completed with no plantings found. Work has just been instituted in Santa Barbara County.

Ribes Eradication: Benedict reports on the experimental Ribes eradication work in his two camps upon the Plumas National Forest as being continued during July. The following tabulation gives the results of the work for this period.

Experimental Ribes Eradication, California, July, 1929.

Type	Acreage Worked	Total Ribes Eradicated	Ribes per Acre Eradicated
Sugar pine - fir	1,475	228,390	155
Sugar pine cutover	231	40,916	177
Brush	51	21,374	420
Stream	192	89,863	468
Total	1,949	380,543	195

"Reconnaissance : Harris reports that 68 sections of sugar pine type upon the Lassen National Forest were reconnaissanced during the month of July. This makes a total of 88 sections worked thus far during the season.

"Ribes Ecology: Patty reports further extension of the temporary plot method of studying Ribes regeneration and growth upon logged-off areas in the Stanislaus National Forest. In the vicinity of Rosasco 10 sections of land which have been logged-off between 1920 and 1929, have been surveyed by this method. This work has in all cases been definitely tied in with the exact year in which the logging took place."

COMMENTS FROM BLISTER RUST FOREMEN IN DISTRICT #3, NEW YORK

Dangerous Work on Tongue Mountain

One of the toughest eradication jobs in New York State this season is the Tongue Mountain tract on Lake George, where the men engaged in the work must climb several mountains to reach the area and have to look for both Ribes and rattlesnakes at the same time. Another dangerous element is the fact that there are considerable Ribes growing on the edge of steep cliffs and ledges. In one instance a crew formed a human chain to let a man down over a high precipice to pull bushes growing there.* Ribes growing on high cliffs and hanging over the forest canopy as these were, certainly should be removed if possible as they afford an excellent means of dispersal of spores by wind.

The eradication of the Ribes around the State Nursery at Lowville, N. Y., is another very important piece of work. It is most essential to remove all the Ribes in this area to protect the young white pine seedlings and transplants growing in the nursery.

Need of Education Evident

Several members of the crew engaged in this work use their personal cars as a means of transportation to and from work. In one instance, the cars were parked near a certain farmhouse on the area, and on returning to them we met a rather unpleasant surprise. We found that someone, obviously young boys, had driven horseshoe nails in our tires. Inasmuch as I was in charge of the work two of my tires were punctured, while in the case of the other members of the crew only one tire (each) was punctured. As we had no actual proof as to who the guilty parties were nothing could be done about it. It is my firm belief, however, that the boys were prompted by their parents to do this. This little incident is only one in many that are happening from time to time in a good many sections where blister rust control work is being carried on. It illustrates the general sentiment of the farmers toward men carrying on the work. In conclusion I would suggest that just as much force be brought to bear on educating the people and getting them to believe in the principles of blister rust control as is brought to bear on the actual pulling of Ribes in the field.

L. W. Merry, N. Y.

*Note: In the future I'd suggest using a rope for cliff work. This was done in eradication work in the Interstate Park in Wisconsin over 10 years ago.

R. G. P.

* * *

Work in Eastern Lewis County

At the present time I am working in the township of Lyonsdale. I have not been able, as yet, to find many examples of the rust on the white pine, but I have noticed its presence very frequently on the gooseberry and currant plants. There are many wild gooseberries and skunk currants in this territory but very

few red or black currants. These species we find frequently on stumps and even in the crotches of trees.

White Pine Makes Rapid Growth Here

I was talking with a backwoodsman the other day concerning the second growth pine in this region near Lyonsdale and he said that forty-five years ago he used to pick quarts and quarts of wild berries on the very spot where now stands a growth of natural pine which would average two feet or more in diameter at the base. If white pine will grow to such a merchantable size every fifty years, it certainly is a very paying proposition to protect it from blister rust.

W. R. Steria, N. Y.

* * *

Wild Ribes for Sale!

The ideas that the individual pineowner has in mind concerning the removal of Ribes thriving upon his property are sometimes suprising as well as interesting.

After explaining at length and to the best of my ability ,the advisability of the removal of Ribes on a certain man's property, I had this question suddenly and unexpectedly hurled at me one day by one who had more or less difficulty in understanding the English language, "How do you pay for these bushes - by the gross or by the thousand?"

Although I soon corrected his impression regarding payment, the wild currant and gooseberry bushes, undisturbed thus far, continue to flourish abundantly on this man's property.

G. Paige, N. Y.

* * *

Danger - Beware!

The orderly removal of cultivated Ribes is a problem at times. While doing eradication work on the Lewis County Pine Plantation, I had a little adventure with a wild man. This certain party had a few cultivated currants and gooseberries in his garden. I told him we would have to destroy them. He agreed to this, but wanted his pay for them before we pulled them up. I explained to him that this was impossible and told him that he would get his pay all right but not until he signed a few papers. Upon hearing this he told me to stay out of his garden or he would blow me all over Lewis County. Seeing it was useless to talk to him, I got a sheriff and we went back, but he was gone. However, he was well represented by his better half. The sheriff entertained her while the crew removed the bushes. The following day I met the owner and received one of the most picturesque lectures I ever heard.

Wm. W. Knowlton, N. Y.

* * *

Blister Rust Infections in Lewis County

Some time ago while working on an area of natural pine near Brant Lake, my attention was attracted by a "Blister Rust Flag." Upon close inspection I was surprised to find 17 cankers on one large pine 24 inches in diameter. These cankers were on the lower branches while near the top were 3 more. Immediately beneath this tree were 5 escaped cultivated black currants and 17 wild gooseberries. Nearby were 6 other similarly infected white pine, some of which were small trees entirely dead while others were partially dead. This is just one case as there are countless others about this section.

We are stressing our efforts to exterminate the cultivated black currant, the deadliest of Ribes in this locality, and have had very little resistance as yet in removing these pests of the white pine. We have found very few of these plants that are not infected with blister rust which partly accounts for the numerous white pine infections found in this vicinity. I notice with great enthusiasm the various publications in the Blister Rust News touching upon the topic of black currants and I firmly believe it to be a worthwhile subject.

L. E. Schillinger, N. Y.

* * *

Sand Blows and Ribes Eradication

During the eradication of Ribes from a stand of natural and reforested pine in the vicinity of Fullerville, St. Lawrence County, N. Y., I found conditions which I believe would be of interest to others.

The original timber on this land was mostly maple and hemlock, with a scattering of white pine. The timber was cut for the purpose of clearing the land and obtaining the hemlock bark. The timber was either burned or left on the ground to rot. Although the soil was light and sandy, excellent crops of corn and oats were grown. Very good grazing was possible on the rough land. Due to poor management and robbing of the soil, the farms were allowed to run down. Sheep were then brought on and pastured and this started a very distinctive decline. The sheep cropped the grass so close, pawed and ate the roots, so that in a few years the top soil was completely gone in numerous places. The land, being a little higher than the surrounding country, was swept by the wind and this further helped wear away the soil. Today there are about a thousand acres of blowing sand except for small wood blocks here and there. There was and still is, a layed-out road across the land but at the time the sand started blowing, it was impassable most of the year.

About 15 years ago, the International Pulp Company, who owned a large part of this practically worthless land, started their first reforestation which consisted mostly of red pine with a few white pine. They have continued reforesting work with white pine until at the present time they have about 250 acres planted. There are about 50 acres of natural pine.

The trees have made very good progress varying from a few inches to 20 feet in height according to their age. In one particular place along a ridge they attempted to protect the small trees in the sand by placing small-sized stones beside each tree but were very unsuccessful and all that remains are the rows of stones and a few dead trees. There are plenty of birch and small poplar trees near this area. In the future they could cut these trees and spread them on the sand for protection.

Considering the number of acres protected which was approximately 400, we did not find the Ribes population very heavy. A total of 10,456 bushes which consisted of 3,256 gooseberries, 7,075 skunk currants, 85 wild black currants and 40 red currants were pulled. Considering the greater share of the acreage was nothing but white sand, the remainder of the area was quite densely populated with bushes.

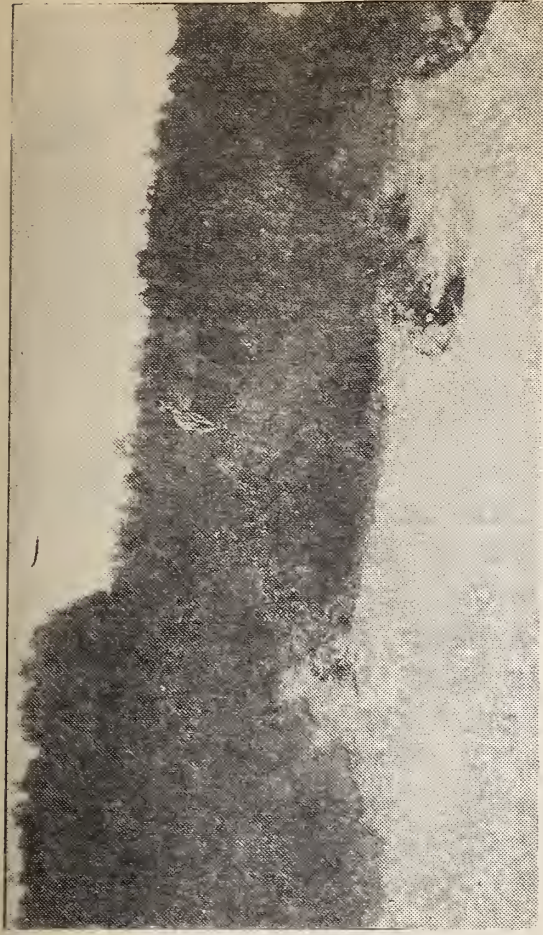
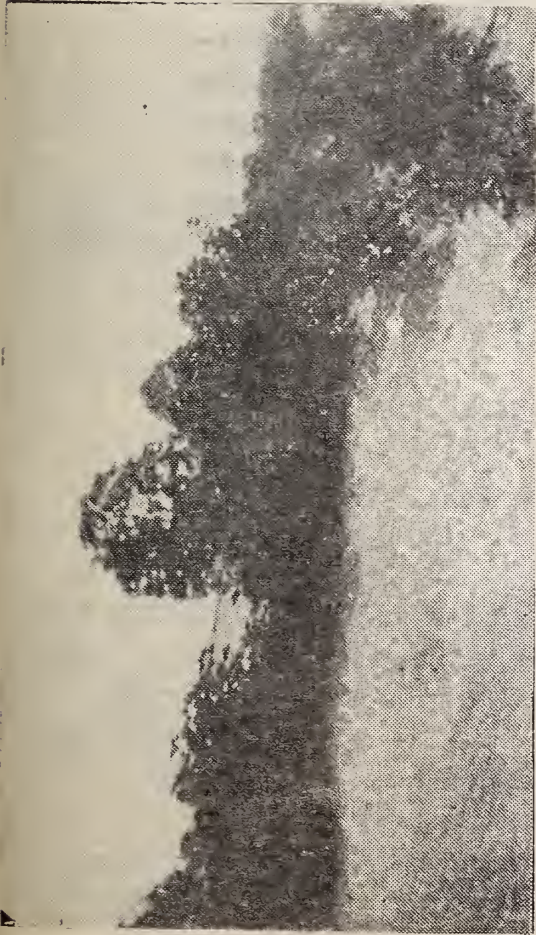
On the lower side of the plantation is the Oswegatchie River. Along the banks of the river and in a few wet drains were found the majority of the skunk and wild black currants. In a hardwood ridge and among the natural pine we found most of the gooseberries. Several blister rust cankers were found in the planted pine showing an infection date of 1926.

On the protection strip facing the road there still remains parts of an old farm building nearly buried in the sand. A short distance from this, in what formerly was a garden, we found a bed of red currants. There were no other signs of vegetation except a few roots of rhubarb within 500 feet of the currants. The currants were about 3 feet in height and the foliage so dense that they looked like one solid mass. There were originally 2 rows of currants, 8 plants in a row.

It seemed like a very simple matter to eradicate these bushes until we attempted to pull them out. The sand had blown around the bushes so that we were forced to dig down over 6 feet before we struck the original level. We then attempted to blow the roots out with dynamite but only one shot took effect as the sand was too loose. This not being successful, we dug down to the entire surface covered by the bushes and cut the roots off. The remaining roots were covered over again with sand. The spot where the currants were located has been marked and we are wondering if they will die out or grow up again through the sand.

Where the pine has been planted, the sand has stopped blowing entirely and it is now possible to drive over the road the entire year.

V. C. Lilley, N. Y.



Red Currants Found Growing on International Pulp
Company's Land Near Fullerville, N. Y.
Bushes Growing in Heavy Sand.

GOOD PUBLICITY CONCERNING BLISTER RUST CONTROL SECURED
THROUGH COOPERATION WITH LARGE PAPER COMPANY.

The Great Northern Paper Company has published an advertisement in 12 Maine papers headed "Blister Rust Control." The "ad" occupies a space 6½ by 15 inches and includes a large cut of a badly infected white pine tree. The write-up concerning the blister rust appears below:

BLISTER RUST CONTROL

Fighting a Deadly Disease

Came to Maine in 1916.*

The foreign fungus, white pine blister rust, so deadly to all species of five-needle pines, was discovered in the United States in 1906, but it was not until 1916 that the disease was first discovered in Maine. Immediate steps were taken to determine the extent of the disease in the State and in 1917 the Legislature appropriated five thousand dollars which was to be matched by the Federal Government. This money was first spent in inspection of nurseries and plantations and in mapping pine areas in York County and in maintaining demonstrations and eradication areas.

The Disease Spreads.

In 1921 it was found that the disease was spreading throughout the southern part of the State and it seemed advisable to solicit the cooperation of towns and pine owners. Consequently the Maine Forest Service and the Federal Government entered into an agreement, placing the work on a year-round basis, to cooperate with townships, cities, associations and individuals in the local eradication of currant and gooseberry plants and in carrying on an educational campaign. About forty thousand a year (owners' labor being considered on a dollar basis) is now being spent yearly in this work.

Control Organization.

Walter O. Frost is State leader and has under him five assistants who cover all the southern counties of the State. Pursuing this policy of dealing direct with towns and pine owners the control work has been very successful, at present being carried on in York, Cumberland, Oxford, Franklin, Androscoggin, Sagadahoc, Lincoln, Kennebec, Somerset, Waldo, and Hancock counties by the county agents, not including smaller activities in other sections of the State.

MAINE FORESTS ARE WORTH PROTECTING

This Advertisement Published in the interests of Forest Preservation by the Great Northern Paper Co.

* Note:- Pine infection in Maine is of considerably longer standing than 1916. The first infections in the southern part of the State occurred as early as 1893 or 1900. R.G.P.

THE CHARLES LATHROP PACK DEMONSTRATION FOREST AT WARRENSBURG

Romance, adventure and the march of industry are reflected in the unique Charles Lathrop Pack Demonstration Forest near Warrensburg, N. Y. It is a wild woods schoolroom, an inspiration forest. Mr. Pack saw in this forest, in which stands a magnificent remnant of the last remaining virgin white pines of America, a duty and an opportunity for public service. ***

There are 2,440 acres in the tract composed of various types of forest and forest land. The property was presented to the New York State College of Forestry at Syracuse University to develop and to operate.

The forest is 10 miles north of the historic village of Lake George. It is on both sides of the Albany-Montreal Highway. Over this road nearly two million people travel annually. The forest itself is typical of the great primeval wilderness which formerly covered the region. The most interesting sight on this domain is a large stand of white pines 150 years old, averaging 120 feet in height, one single acre of which supports a growth of more than 100,000 board feet. This fine old growth timber has been a source of interest to past generations; it will be a source of instruction to future generations.

A large portion of the wooded area is composed of middle-aged softwoods and hardwoods in pure stands and in mixtures. ***. Approximately half of the forest consists of uneven-aged stands of hardwoods and softwoods in mixtures. The even-aged stands are mostly white pine and there is a lesser acreage of hardwood. ***.

As an experiment station, this representative forest has a boundless field for useful service to the people of the State. ****.

(Extract from illustrated eight-page publication "The Charles Lathrop Pack Demonstration Forest".)

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EATING FOR EFFICIENCY

Scientific experiments have lately been carried out by Dr. Thaddeus L. Bolton (who by the way is an old professor of the editor), Head of the Department of Psychology, Temple University, Philadelphia, to determine the value of an extra luncheon in midafternoon. He took 20 girls under observation for two weeks, fed some a matinee "snack" of orange juice, cake and chocolate, while the others had nothing in the way of food to sustain them between noon and night.

"The investigation has shown", says Dr. Bolton, "positive results in favor of small quantities of concentrated foods taken in midafternoon. Although we dealt only with feminine office workers, our findings apply with equal force to the opposite sex. ***.

"As the food supplies within the body approach the point of exhaustion, work powers begin to fall. Fatigue sets in, starting up muscular tremblings and lowering the speed and contractile power of the body members. Food of a highly concentrated and readily assimilable character unquestionably acts as a quick restorative of energy and working capacity.

"On the basis of our findings, hard-working business and professional men and women would do well to keep in the drawer of the desk a box of candy or candied fruit. When energy begins to flag in midafternoon, these quick-action foods will act as emergency rations and supply the calories needed for the rest of the day's work. The sugar in afternoon tea or in sweetened cold drinks will have the same effect.***.

"The full-food group" (i.e. those girls getting the extra lunch in mid-afternoon), declared Dr. Bolton, "shows that work power has gone up very considerably during the day; it is low at 9:30, higher at 2:30 and still higher again at 4:30. Where the group which was not sustained with a nibble in mid-afternoon fell off in output, the full-food group showed the most efficient effort of the day. This seems to be the effect of the food.

"In the average office the hours between 2:30 and 5 are the period of greatest rush and strain. The falling curve of work, shown by testing the girls who continued their normal food habits, occurs at the worst possible time.

"The purpose of our investigation was to determine to what extent working power may be sustained at its early afternoon peak by the eating of suitable quantities of foods which are quick sources of energy.

"Foods having a high sugar content were selected, because sugar is not only a highly concentrated energy food but one which is quickly assimilated by the system. Its effects, therefore, are almost immediately apparent. ***.

"There is no doubt, however, that the eating of a food that is quickly transformed into energy will aid in keeping men and women working at higher efficiency. How much to eat will vary with the person's eating habits at regular mealtimes, and each person should adjust himself to the needs of his own body. ***."

(Extract from "The Sunday Star", Washington, D. C., August 25, 1929.)

Edit:- While the experiments carried on by Dr. Bolton were with office workers, the principle established as a result of the experiments would probably be the same for manual workers. Would it not, therefore, be advisable for some of the agents to try this out with their eradication crews in the coming season?

R. G. P.

FORESTS AS FARM RELIEF MEASURE

Diversion to timber growing of certain marginal lands now being farmed at a loss is advocated as a measure contributing to farm relief by Secretary of Agriculture Hyde. It was pointed out that extension of forestry to marginal and submarginal lands will be not only a practical measure of farm relief but also will increase future supplies of wood and contribute to soil conservations and flood prevention.

"Much land that is submarginal for agriculture still is being cultivated," Secretary Hyde said. "Increasing poverty eventually will force the cultivators of submarginal agricultural land to abandon their farms also. Meanwhile, their misdirected efforts are an important factor in contributing to the depression of the entire industry.

"The proposal that a reasonable amount of such lands be purchased by the Federal Government, or some other agency financially able to carry the investment for a sufficient period to realize on the greater value of the land for forestry purposes, has much to commend it. Some such plan might be worked out on a scale sufficiently large to be of consequence as a farm relief measure.

"The farm lands which already have been abandoned require attention. Such lands spring up to an incomplete, inferior and relatively unproductive forest. There needs to be a broader conception of the forest as a farm crop, which by proper methods of establishment and culture can be made a revenue producer, and a valuable feature of diversified agriculture.

"The problem of bringing larger areas of land into use for timber growing has been given consideration by this department in recent years. The matter of taxation is important. Many States have tried by exemptions, bounties and by special forms of forest taxation to promote reforestation and forestry practice by private owners. To only a small degree have these efforts been successful. On the whole, it appears that forest lands can and should bear their fair share of taxation. However, it is important to determine what is a fair tax to place on forest lands and then to develop a system providing for payment at such times and in such ways as will not be an unreasonable obstacle to growing forest crops by private owners."

Wall Street Journal, 7/30/29.

(Extract from "News Letter" of the Maryland State Department of Forestry, Vol. 7, No. 8, August, 1929.)

A M O N G O U R S E L V E S

Mr. S. B. Detwiler returned to the Office September 2, from a field trip through the Northeastern States.

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Dr. J. F. Martin left Washington August 30th for a field trip of about a month to the Middle Atlantic and Northeastern States.

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Mr. Roy G. Pierce left Washington the 4th of September for a field trip of several weeks in the North River Valley of the Shenandoah National Forest, Va., where he will cooperate with the Forest Service in scouting for and eradicating Ribes. In the latter part of September Mr. Pierce expects to scout for blister rust in other sections of Virginia, and Maryland.

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Miss Brycie J. Bayles was appointed Scientific Illustrator in the Washington Office September 1, being transferred from the Extension Service, Dept. of Agricultural.

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Mrs. Coral J. Photis returned to the Office September 9th after a two-weeks illness.

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"RINGERS AND LEANERS"

The ancient and honorable game of barnyard golf (hors-shoes) has taken the Washington Office by storm. Two pitching courts have been constructed and any day at lunch time the office force can be seen endeavoring to heave on a "ringer". Several of the force have proven rather adept and there is talk of a tournament. Among the sharpshooters are Messrs. Avery, Calhoun, Pierce and Palmer. The others are up and coming.

P U B L I C A T I O N S

Ribes

Wiggins, Ira L. "Four New Plants from San Diego County, California", in "Contributions from the Dudley Herbarium of Stanford University", Vol. 1, Number 3, p. 99-102; Stanford University Press, 1929.



BLISTER RUST NEWS



October, 1929.

Volume XIII

Number 10.

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
Office of Blister Rust Control



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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

THE BLISTER RUST NEWS

Issued by the Office of Blister Rust Control
and the Cooperating States.

Vol. 13, No. 10

October, 1929

BLISTER RUST INFECTION IN MICHIGAN

Heavy Infection on Cultivated Black Currants in Marquette County

Mr. D. J. Stouffer, Blister Rust Control Leader in Michigan, in a letter dated September 13th, wrote as follows concerning blister rust infection in his State:

"The eradication crew working on destruction of black currants in Marquette County in the Upper Peninsula have been reporting infection on this host throughout the area which they have worked. Infection has been found on black currants in Marquette, Ishpeming, Republic, Champion, Negaunee, Wells and Powell townships. Infection on pine has been reported in Ishpeming, Negaunee and Tilden townships. The extent of the pine infection has not been determined yet as most of the work has been confined to black currant eradication work only, and very little time given over to scouting for the disease on the pines.

A blister rust demonstration was put on at the Marquette County Fair during the first week in September. This resulted in the destruction of many bushes by the owners previous to the visit of the eradication crew.

Blister Rust Found for First Time in Delta County

One of the inspectors while returning from eradication work in the rural districts of Wells township, passed through a corner of Delta County and examined some black currants which he saw there. The blister rust infection which he found on these currants was the first to be reported from Delta County.

Work in the Lower Peninsula

The black currant eradication campaign is now being initiated in Montcalm County as the completion of Newaygo County was effected early this week.

Many of the inspectors who were employed temporarily during the summer have completed their work and the crew will be gradually diminished to three or four.

COOPERATION IN BLACK CURRANT ERADICATION
ATTLEBORO, MASSACHUSETTS

During the year (1929) all black currants have been removed from properties in the City of Attleboro, Massachusetts. This work was carried on under a system that might be called the interview and re-check system, under which all properties in a township are visited and search is made for black currants. Wherever such Ribes are found, the owner is interviewed and requested to remove the plants. A card is left with the owner with the request that he send in the card in notification that the plants have been removed. At a later date, all places where black currants were found are re-visited. Places where the owner has sent in a card are merely checked to make sure that the plants have been disposed of, and at the places where the plants remain, they are removed forthwith by the Inspector.

The success of this particular policy, at least in obtaining the participation of the owner in getting rid of the bushes of his own accord, may be judged from the results accomplished in Attleboro. The pertinent data are recorded below:

No. of places where black currants were found	93 -	No. bushes	880
No. of owners who eradicated Ribes.....	70 -	" "	592
No. of places where bushes were removed by the owner and the inspector	5 -	" "	151
No. of places where bushes were removed by the inspector - no cooperation	18 -	" "	137
No. of claims for reimbursement	1 -	" "	12

It seems that these figures speak for themselves; active cooperation from 80% of the owners, involving the voluntary removal of 85% of the Ribes, and but one claim for compensation.

E. M. Brockway, Mass.

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COLORED LANTERN SLIDES ATTRACT ATTENTION AT BLISTER RUST
TALK BEFORE THE EXETER, R. I., GRANGE.

Mr. A. W. Hurford, Blister Rust Control Leader in Rhode Island, who recently made a blister rust talk before the Exeter, R. I., Grange, found that colored lantern slides hold the attention of the audience much better than uncolored ones. He writes:

"I spoke on blister rust and related forestry matters at the Exeter, R. I., Grange to about forty people on the evening of September 5. Forty-eight lantern slides were shown, some of which were colored and some of which were not. I made an interesting study to see whether colored slides were worth while in holding the attention of the audience more so than the uncolored ones. I found that the colored slides created much more attention, and also allowed me to bring out various points more clearly. The plain slides were prepared for the State, and the colored ones were sent out by your office."

NEW DEVELOPMENTS IN BLISTER RUST SITUATION

Infection Found in Iowa Nursery

Specimens of cultivated black currants (R. nigrum) have been received in Washington from the State Entomologist of Iowa, which have been identified positively as infected by the white-pine blister rust. The infected bushes were stated to have been found in an Iowa nursery located at Center Point in Linn County. This is in the east central part of the State, about 90 miles south of the Minnesota line. This is the first infection found in Iowa since 1917, when ye editor located and destroyed the rust on one limber pine in Lyon County in the northwestern corner of the State.

R. G. P.

New Infection Areas in Pennsylvania

Mr. L. W. Hodgkins in letter of August 15th writes:

"We found blister rust in the Alleghany National Forest yesterday; one location being quite near 'Hearts Content'. I found one specimen (on pine) at Rams-Horn Spring. (Identified by the Office of Forest Pathology as infected with blister rust.) This was within a few hundred feet of the large trees. The next nearest find was about one and a half miles away. We found it in three locations; two of them being widely separated. The cankers ranged from 1925 to 1927.

"Forest Ranger Stone was with us, also District Forester R. R. Houpt." Both Stone and Houpt found the blister rust though they had never seen it before. "Houpt found it on Ribes before it was located on pines by me a few minutes later. The location at Henrys Mills is on an elevation just above a nice stand of white pines, which are about half matured, with some large trees scattered throughout the stand. Ribes are abundant here."

On September 7th, Mr. Hodgkins writes concerning the infection near the Mont Alto Forest:

"Found a good bit of blister rust on pine and Ribes in the southern end of the Forest, approximately five miles from the Pennsylvania-Maryland State line in what is known as 'Bieseckers Gap'. As far as I know, it is on both State and private lands. I cannot say at this time how far it is scattered, but we found it along the trail for about a quarter of a mile, and about the same width. Conditions indicate that it extends much further than that east of the run. The heavy infection on Ribes seems to indicate a more serious and older infection than we saw. Ribes rotundifolium were abundant there and east of the brook the infection seemed quite general. There is plenty of moisture in the Gap to make conditions ideal for the spread of the disease." District Forester Bradley gave us very good cooperation.

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Ribes eradication work with cultivated black currants will continue until about October 15, if funds permit.

Sept. 17, 1929.

C. C. Perry, Mass.

SCOUTING FOR BLISTER RUST IN WESTERN MARYLAND

Mr. John R. Curry of the Maryland Department of Forestry made a survey throughout western Maryland covering Frederick, Washington, Allegany and Garrett Counties between September 5 and 15, 1929, in cooperation with the U. S. Bureau of Plant Industry. All sections of each county were covered.

Messrs. Pierce and Geiser of the Office of Blister Rust Control, who made a survey of the territory just south of Pennsylvania in 1928, made a re-survey in western Maryland between September 23 and 27, inclusive. No signs of blister rust were found by either party. Particular attention was paid in the latter survey to the part of the Blue Ridge Mountains in Maryland, known locally as South Mountain and Catoctin Mountain, since blister rust had been found in September by Mr. L. W. Hodgkins of the Blister Rust Control Office, in Biesecker's Gap on the west side of South Mountain about $3\frac{1}{2}$ miles northeast of Waynesboro, Franklin County, Pennsylvania, and 5 miles north of the Maryland line. South Mountain in Maryland is a continuation of the same range in which the blister rust was found a few miles to the north. Mr. Curry reports finding native gooseberries, Ribes hirtellum, at 3 places in the Catoctin and South Mountains, while Pierce and Geiser found wild gooseberries only at a single place. The latter, however, inspected yellow flowering currants at two other sites. In only two localities in these mountains were Ribes found growing close to pine by either party. Both white pine and Ribes seem to be scarce. Ribes nigrum, the European black currant, were examined by Mr. Curry at 6 places in western Maryland without any blister rust being located on them.

While additional scouting was also carried on by Pierce and Geiser in the mountain regions of West Virginia and Virginia between September 4 and 27, no signs of the blister rust were found by them either on pine or Ribes.

R. G. Pierce.

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FINE INFECTION IN CLACKAMAS COUNTY, OREGON

Goodding reports "Inspection showed infection on Ribes well scattered to the south of the white pine portion of the Still Creek planting but within the main boundaries. One pine with several juvenile cankers on it was located in the southwest portion of the planting.

"Blister rust has been found quite generally distributed on the Ribes in the Clackamas River region. One infection was found on Devils Creek on the Santiam watershed. This marks a step farther south in its aggression. One infected tree was located on Salmon River (Clackamas County). This represents the farthest point south for known pine infection in Oregon."

(Extract from Western Blister Rust News Letter, Vol. 4, No. 9, Sept. 15, 1929.)

PINE INFECTION LOCATED NEAR ELK RIVER, IDAHO

On August 13, 1929, an extensive center of pine infection was discovered near Elk River, Idaho. This infection area is at the junction of Three Bear and Long Meadow Creeks. There are apparently two areas of 1923 infection, the larger one about 7 chains north of the creek junction and on Long Meadow Creek. Here there are probably 100 trees with cankers of 1923 origin on a strip 2 chains wide and 6 chains long extending up the east facing slope. The smaller spot infection of 1923 origin is on the north facing slope of Three Bear Creek, about 5 chains west of the junction. Here there are probably 75 pines with infection of 1923 origin.

Infection of 1926 and 1927 origin was found for 35 chains up Three Bear Creek, 20 chains up Long Meadow Creek, and 4 chains down stream below the forks. Infection was found extending up the slopes for a distance of 6 to 8 chains.

It is estimated that fully 90% of the trees have cankers in the large 1923 infection area, 75% in the smaller, and possibly 5% on the remainder of the area. It is probable that the infection occupies fully 60 acres. There are probably 1500 white pine per acre, making 90,000 trees on the infected area. If 5% of them were infected, it would give us 4,500 trees infected. This is, I believe, a conservative estimate.

There are numerous very small dry draws supporting Ribes viscosissimum and R. lacustre in close association with pines. Infection occurred in these situations rather than along the rocky, narrow, steep-sided canyons of the two creeks. ****. R. lacustre and R. viscosissimum will average 30 to 50 per acre on the infected area, as abundant in the stand as along the narrow, rocky streams. ****.

H. N. Putnam.

(Extract from Western Blister Rust News Letter, Vol. 4, No. 9, Sept. 15, 1929.)

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VIOLATION OF QUARANTINE # 7

A rather deliberate violation of quarantine #7, which prohibits the further importation of Ribes plants into this country, was brought to light in connection with the removal of a few cultivated Ribes in the town of Shirley, Massachusetts. Repeated efforts had been made to persuade the owner to remove the Ribes, but to no avail. Finally, he was informed that unless the plants were disposed of by a certain date, it would be necessary to destroy them, according to law. This edict was met by the sole repeated threat "I kill - I kill". On the appointed day, however, the plants were removed and there were no human casualties. The owner is unable to speak English except to utter such words as noted above, but a son acting in the interest of his parents submitted a claim for reimbursement. In his letter he disclosed the fact that the 14 gooseberry bushes had been imported in violation of the quarantine, by stating in the letter that "my folks are from Lithuania and having acquaintance across succeeded in importing them at approximately \$5.00 per plant". The owner has been advised of the seriousness of the offense, but no further action seems to be called for under the circumstances. Our prime interest was in securing the removal of the plants from the location in which they had been set out.

W. T. Roop, Mass.

WISCONSIN BLISTER RUST CONTROL WORK FOR 1929

With the bringing to a close on September 1, of the blister rust control work in Wisconsin for the season, it was disclosed that this fungous disease is still spreading; however, very slowly. Although it was discovered in Polk County in 1915 and very little has been expended since 1921 in an attempt to control it, the disease is still confined to thirteen of the fifty-some pine-growing counties of the northern part of the State. As last year, the scouting revealed that the greatest amount of spread took place in the two general regions, one comprising Dunn, Chippewa, and Barron Counties, and the other Shawano and Waupaca Counties. Two Ribes infection centers found late last fall in Florence County were inspected carefully this summer without finding any infection. A new isolated Ribes infection, however, was found in Forest County a few miles south of the Michigan Upper Peninsula boundary line. A new pine infection was likewise discovered near Chetek in Barron County about 15 miles south of a new one discovered last year near Barron. About fifty per cent of the young pine are infected in the two known infection centers near Range, Polk County, where the eradication work was carried on during June and July with a crew of six men under the direction of Mr. H. J. Ninman. A total of 18,665 Ribes were eradicated by this crew in three areas, including 16,843 wild gooseberry, 1140 skunk currant, and 682 wild black currant bushes.

An attempt to secure an increased appropriation amounting to \$3,000 annually for carrying on this work, failed, although the bill met the approval of the legislature. The appropriation, amounting to \$1,000, will therefore remain the same for the next year and will be spent during this fiscal year.

E. L. Chambers, State Entomologist - Wisc.

Scouting in Shawano and Oconto Counties in Eastern Wisconsin

During the last three weeks of September I was scouting in Shawano County nearly all of the time. However, I did go into Oconto County two or three times, and on one occasion found one Ribes cynosbati with three leaves slightly infected with blister rust near Underhill, a short distance over the Shawano County line and about 4 miles from the Menominee Indian Reservation. This is the first infection found in Oconto County. There is but little white pine in Oconto County.

In the southern part of Shawano County, where there are many farm woodlots with a high percentage of white pine trees, the blister rust may be considered as being generally distributed. Most of the infection occurs in the towns of Pella, Belle Plaine, and Waukechon, but there are infections in other towns (townships). In three weeks of scouting I was out only one day in which I did not find one or more Ribes infections in new places. Three small white pines were found infected this year in the town of Belle Plaine where only Ribes were infected last year. In three other places pine infections are strongly suspected. At least one pine infection seems to occur in the town of Waukechon, and one or two in the town of Pella. There is evidently a pine infection just south of the town of Pella in the town of Larabee in Waupaca County.

In Shawano County, Ribes are not particularly numerous excepting in a few woodlots. Most of the pine occurs on sandy soil. There are several thousand acres of mixed stands with much white pine where practically no Ribes occur or where they are so few that eradication is not necessary.

A rather serious infection area occurs on Ribes on the Menominee Indian Reservation in Shawano County, south of the area previously eradicated. The authorities of the reservation intend to spend \$800 for Ribes eradication next summer. Conditions around the nursery north of Keshena are fairly good. The eradication work in that region two years ago was very efficient. In the northern and eastern part of the reservation no infections were found. This region contains but few Ribes excepting along the streams, and in large areas there are practically no Ribes. Even around the lakes in the eastern part there are practically no Ribes.

H. J. Ninman, Wisc.

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BLISTER RUST IN RETROSPECT IN NEW HAMPSHIRE *

"In 1915 the white pine blister rust began seriously to threaten our white pine forests. The legislature had adjourned and no money was available for control work. The U. S. Department of Agriculture was conducting scientific investigations, but had no funds for eradicating the disease. I explained the whole situation to Senator Gallinger and his interest was at once aroused. He sponsored an emergency bill which was passed by Congress in a suprisingly short time. Federal authorities approved our field program and thus New Hampshire got the jump on the disease with control measures. The fight against this deadly pest under a plan of cooperation between federal, state and town governments and woodland owners, has been a remarkable example of effective public work and should be continued until our pine forests are safe. *** ."

E. C. Hirst

* * *

Blister rust control had started about 4 years prior to 1920. The Federal Government at that time contributed one-half the cost of eradication measures with the State and towns. Organized control work was just getting its stride in 1920. Since then the Federal Government has discontinued financial aid in eradication and instead provided for a system of county agents to supervise all blister rust work. Control work has been paid for 3/4ths by the towns and 1/4th by the State and during the last 10 years the area brought under control has increased from 450,000 acres to nearly 2 million acres. The county blister rust agents have done much to promote general forestry as well as to account for the splendid record which New Hampshire has in control measures carried out. A recent act of the Legislature provided for compulsory appropriation by towns in order to complete areas where no work has heretofore been done. ***."

J. H. Foster

* Extracts from the 20th Anniversary Number of New Hampshire Forests, Vol. VI, No. 3, September, 1929.

RIBES ERADICATION IN THE SHENANDOAH NATIONAL FOREST, VIRGINIA

The U. S. Forest Service is taking time by the forelock in beginning Ribes eradication on one of the national forests in Virginia. While the blister rust has as yet not been found in the States immediately south of Pennsylvania, it is very likely that it is present there in isolated localities for it has been found within five miles of the Maryland-Pennsylvania line northeast of Waynesboro, Pennsylvania, on pine and Ribes.

The Forest Service in cooperation with the Office of Blister Rust Control this fall initiated Ribes eradication in the North River Valley of the Shenandoah National Forest. The particular reason for beginning Ribes eradication work in this valley is found in the extensive white pine reproduction and numerous immature pine stands, as well as in the location of two extensive pine plantations which occur in a ten-mile stretch north of the Staunton Reservoir.

Some preliminary scouting and eradication was carried on here by the writer in September, 1928, and April, 1929. Between September 5 and 19, of this year, a crew of three men, including the writer as foreman, Mr. Francis Plaistrige (whom Perry and Doore will probably remember as working on blister rust control in Massachusetts some years ago) and R. Loftin, a North Carolina University student, worked on the North River eradication area. Headquarters were made at Camp Todd Ranger Station for the first ten days. Here the men did their own camp cooking, cleaning and sleeping. A "bran'-new" building added to the comforts of this Station, which was 8 miles back in the mountains from the end of the railroad at Stokesville and 22 miles from the Ranger's headquarters at Bridgewater.

White pines are practically limited to the valley floor which varies in width from 600 feet to a half mile or more, though occasionally they are found up the steep and drier slope and on upland benches among the chestnut oak and yellow pines. The white pine ranges from less than 1% of the stand, where it is found mixed with hardwoods, to 100% where it occurs in pure stands several acres in extent; the average being probably between 5 and 20% of the stand.

A total of 1,114 Ribes bushes, largely R. cynosbati, but with a small percent of R. rotundifolium, were destroyed in the eradication area, which is estimated conservatively at about 1,000 acres. The Ninman picks were used to great advantage since many of the bushes had very large strong roots.

Some Ribes eradication work was also carried on up Little River, a tributary of North River, and on North River below the Staunton Reservoir, a total of 171 bushes being destroyed on these areas.

Owing to the extreme dryness of the season, many bushes were partially or wholly defoliated by September 19th. For this reason a check will probably be made in the coming spring to note the efficiency of the eradication work.

Unlike New England conditions where it can be somewhat definitely stated that Ribes should be found in certain areas, given certain types of vegetation and ground cover, it was not possible to be so definite in prognosticating the presence of Ribes in the Shenandoah Forest. This necessitated advance scouting over practically the whole river bottom, with intensive crew work only where Ribes appeared in quantity.

SIDELIGHTS FROM RHODE ISLAND

The article "Sand Blows and Ribes Eradication" by V. C. Lilley of New York in the September Blister Rust News, was very interesting. Mr. Lilley and others might appreciate knowing of an experience of Mr. T. B. Mathewson, Superintendent of Goddard Memorial Park, Warwick, R. I. In the earlier pine plantings on the wind-swept sand dunes at the park much difficulty was experienced in keeping the sand from covering the newly-planted seedlings. After observing the action of poles sunk in sea water in breaking the waves and thus reducing the rocking of sheltered boats, Mr. Mathewson came to the conclusion that he could protect his seedlings by the same principle. He informs me that he proceeded to put two to three-foot stakes in the ground, a stake beside each seedling. This resulted in breaking the wind and stopping the sand from covering the trees. This action was so successful that he has recently recommended it to another Rhode Islander who is attempting to control shifting sands by pine reforestation and thus utilize otherwise waste land. I would be glad to learn if this method has been applied in other States.

* * * *

Blister rust workers may be interested in knowing that at a recent field party given the members and advisory council of the Rhode Island Department of Agriculture by Commissioner Harry R. Lewis, the group suprised Commissioner Lewis by presenting him with a seventeen-jewel Hamilton wrist watch. This was given as a token of appreciation of his ability as an administrator as well as his kind consideration at all times. Mr. Lewis is the State cooperator in blister rust control work and has taken a keen interest in blister rust activities ever since he entered the Department.

* * * *

A field demonstration meeting was held at the Providence-Scituate Watershed at Scituate, R. I., on September 24. This meeting was held under the auspices of the Providence-Scituate Reservoir Division, the Rhode Island Forestry Association and the State Department of Agriculture cooperating. The purpose was to allow people interested in forestry matters to visit the Scituate area where over one-half million white and red pines have been planted, as well as to learn what forestry practice should be applied in Rhode Island. Twenty leaders in Rhode Island forestry activities were present including watershed officials, park commissioners and forest owners. The group was fortunate in having Professor Hawley of the Yale University School of Forestry present as the principal speaker, and they obtained much valuable information from him and appreciated his consideration in coming to Rhode Island to aid in their problems. In 1928, the entire area was scouted by the State blister rust control crew and over 10,000 Ribes were eradicated on more than 17,000 acres. I explained this past control work to the group, and in the talk by Commissioner of Agriculture, Harry R. Lewis, he brought up the subject of blister rust control as part of effective forest protection and related how past control work in the State had kept Rhode Island free from great commercial damage to pine.

A. W. Hurford, R. I.

IMPRESSIONS OF BLISTER RUST AND FORESTRY CONDITIONS IN THE EAST

I am very glad that the pleasure of studying blister rust and forestry conditions in the East was extended to me by the Blister Rust Control Office. I came back to Minnesota with a much better and more balanced knowledge of both.

I saw blister rust under all conditions. Perhaps of all infection areas visited, the Waterford, Vermont, area made the greatest impression on me. Better than seventy-five per cent of a merchantable pine stand in this area is infected, 19.8 percent of the trees being already killed by the disease, and an additional 8.7 percent having dead tops.

The efficiency of local control being done in the East is very striking, leaving no doubt as to its practicability. The high type of men, especially crew foremen, scouts, and checkers doing this control work promises a bright future for the organization.

We found Fivaz doing some of his fine work near Warrensburg, New York. Why not some ecological studies here in Minnesota, Fivaz? Hirt is doing a fine job in carrying on Dr. Pennington's unfinished work.

The universal presence of white pine in the Eastern States is a surprise to a man from Minnesota where white pine in commercial amounts is present in only the northeastern one-third of the State.

At Keene, New Hampshire, we learned that the nearby forests on a sustained yield were supplying the demand of a dozen different factories. A visit to a few of these factories was very interesting.

The forest research being done by the eastern forest schools shows a healthy, progressive spirit. The use by several individuals of intensive forestry methods is very promising. Mr. O. M. Pratt of Holderness, New Hampshire, is an example of these individuals. Mr. Pratt has been several jumps ahead of the profession for some time in his methods of tree pruning.

I appreciate very much everything that was done by the men whom I met, to make my trip profitable and enjoyable.

L. B. Ritter, Minn.

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RUST PROOFING OUR WHITE PINE FORESTS

May we not liken the eradication of Ribes in protecting our white pines from the blister rust, to the elimination of the old wooden shingle from the roof tops of the buildings in our present day congested communities? Fire preventionists in the modern city are insisting upon the elimination of the untreated wooden shingle, so that sparks that may fall upon a roof will not find conditions favorable for kindling a new conflagration. Similarly, if aeciospores from a rust-infected pine tree find lodgment on the leaves of plants other than Ribes, their existence, like the fire brand, is at an end. Possibly the analogy may be helpful in putting across the idea of rust-proofing our pine forests to some skeptical prospective cooperator.

C. C. Perry, Mass.

HOW TWO OLD TIMERS WERE FOUND

Two Black Currants Living in Abandoned State at Old Miner's Settlement.

Driving up to the Post Office at Tremont, in Schuylkill County, Pennsylvania, to ask for a reported grower of black currants, I notice an old gentleman outside, of whom I ask, "Do you know if anyone in town has the old-fashioned black currant bushes growing in their garden?" He replies, "I used to have some long ago. I believe there are none around here anywhere. But Mary McCarthy, I think, has some after all, now that I think of it. I live near her and I will go with you to show you where she lives."

So we drive on a back street to a store where it develops that Mary does not have any. However, to my questioning, she replies that there are lots of black currants growing near Middle Creek Colliery in the woods. This is the last stop of the day, and many previous experiences have produced in such circumstances no black currants (R. nigrum). However, we want to be sure so I ask the distance up there and whether the old gentleman, Mr. Smith, will go along as it is in the woods and the woods are between two mountains. After all, I say to myself, they will prove to be native black currants (R. americanum) growing in the woods with very little likelihood of infection with blister rust, even if we find them. Mr. Smith looks at his watch and says, "I'll go with you".

After a drive of about three miles we pass the Colliery and he shows me where an old miner's settlement used to be twenty years ago, which is woods and mining property now. Looking out of the car on the left, I see the black currant bushes and sure enough they are R. americanum. We go to examine the bushes and find no blister rust. Disappointment registers on Mr. Smith's face. "Well, Mr. Smith", I said, "let's look around. Is there another place?"

"Yes over there stood a house too", he replied, pointing across the road. We walk over and after a little search I see two black currants (R. nigrum) standing lonely vigil near two apple trees. Not very healthy black currants but still on the job after all these years.

"Here they are!". I call out and one minute later, "Here it is!", as I pick off the blister rust infections.

"Well! Well!" says Mr. Smith and I believe he was as pleased with my fourth find of the summer as I was myself.

Moral, to be taken from the black currants themselves: "Never Give Up".

R. C. Hertzler, Pa.

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We have a three-man crew working on black currant scouting and eradication activities. They will finish work on October 26. The crew has eradicated over 5,600 black currant bushes to date. Over 1,600 cultivated black currants were eradicated in the township of Cumberland alone.

Sept. 19, 1929.

A. W. Hurford, R. I.

NURSERY SANITATION IN MASSACHUSETTS - 1929

The removal of Ribes in the vicinity of pine-producing nurseries in Massachusetts has been carried on during the 1929 field season by employees of the Division of Plant Pest Control of the Massachusetts Department of Agriculture. This work has been practically completed; that is, initially, in connection with the important commercial nurseries in the State. For the time being this sanitation work will not be attempted with the smaller nurseries, because it will be necessary from year to year to re-inspect the original work around the larger nurseries for the purpose of eliminating any regrowth of Ribes and to prevent replanting of garden varieties by adjacent property owners. This work alone will exhaust available funds.

This season, sanitation work was also performed in the areas surrounding three large nurseries operated by the Division of Forestry of the Massachusetts Department of Conservation; namely, the nurseries located at Amherst, Baldwinville, and Clinton. In these areas, Ribes eradication work had been performed previously on the 900 feet and one mile basis, and therefore the 1929 work merely involved a re-examination of previous work and the extension of the protection zone from 900 feet to 1500 feet. No wild or cultivated Ribes were found on any of the areas surrounding these three State nurseries.

No shipping permits under the provisions of the revised quarantine #63, have as yet been granted to Massachusetts Nurserymen, and there has been but one bona fide application for such a permit.

C. C. Perry, Mass.

ERRATA

In the article by Mr. William Clave entitled "Massachusetts Continues Experiments on the Chemical Eradication of Skunk Currants", which appeared in the September issue of the Blister Rust News, there were two mistakes made in naming the chemicals used. The last two paragraphs of this article are, therefore, repeated with the corrections underscored:

"In all of the 1928 work, two solutions were used. One was a solution of sodium chlorate and the other was a combination of calcium chloride and sodium chlorate. In each instance, whale oil soap was added as a spreader and sticker. From the checks which have been made to date, it is not possible to detect any appreciable difference in the effectiveness or lack of effectiveness of the two solutions used.

"This spring, plans were made to continue the spraying and to try three new chemicals which have given particularly promising results in the western work. One of these is magnesium chlorate; the second, a new Ribicide discovered by Mr. Offord who is connected with the western control program; and the third, a new commercial weed killer known by the trade name "Atlacide", a mixture of sodium chlorate and calcium chloride which forms a high percentage of calcium chlorate when dissolved in water. Three new plots were sprayed last month (July) and three other plots will be sprayed late in the summer or in the fall."

R.G.P.

PROGRAM

ANNUAL BLISTER RUST CONTROL CONFERENCE
WARRENSBURG, NEW YORK - EVENING OCTOBER 31 TO NOVEMBER 2, 1929.

October 31st

6:30 P.M. - Dinner - Hotel Adirondack, Warrensburg, New York.

7:30 P.M. - General Meeting - Hotel Adirondack, Warrensburg, New York.
Chairman - Mr. W. O. Filley, Forester, Conn. Agr. Experiment Station.

Address of Welcome and Talk on Forestry in New York
Mr. W. G. Howard, Superintendent of Forests, New York Conservation Dept.

Pruning and Weeding - illustrated with slides
Mr. A. C. Cline, Assistant Director, Harvard Forest, Petersham, Mass.

November 1st

8:00 A.M. - Inspection of Field Conditions.
Pack Forest - Under direction Mr. C. H. Foster, Director, Pack Forest.
Ribes Ecology - Under direction Mr. A. E. Fivaz, Office Blister Rust Control.

1:30 P.M. - General Discussion of Blister Rust Control Problems.
Spread of disease, status of control work, effectiveness of control, black currant eradication, nursery sanitation, re-eradication, etc. - Administration Building, Pack Forest, Warrensburg, New York.

7:30 P.M. - Smoker: Bring Your Pipe and Pet Topics.
Mr. H. E. Allanson, Assistant Chief of U. S. Bureau of Plant Industry, will discuss "Administrative Relations" - Administration Building, Pack Forest, Warrensburg, New York.

November 2nd

8:00A.M. - Inspection of pine areas, blister rust damage, and effectiveness of control - under direction Mr. H. L. McIntyre, Supervisor, Forest Pest Control, New York Conservation Department.

2:00 P.M. - Inspection of other tree diseases - under direction Dr. H. H. York, Forest Pathologist, New York Conservation Department.

Space will be provided for exhibit material

ZON'S METHOD OF LECTURING IS IMPRESSIVE

In one of the talks by Director Raphael Zon of the Lake States Forest Experiment Station, he prefaced his remarks by saying that he had devoted some thought to presenting science in a popular vein. As his lecture proceeded it was evident he had applied the idea to his lecture, which was ostensibly a study in silviculture. Incidentally, but very significantly, it turned out to be a demonstration of the art of popular presentation. The lecture was replete with parallels and contrasts between forest conditions and the human family. Many of these references were humorous. When the lecture was finished one could not help being impressed with the success of the effort.

Director Zon not only offered a lesson in silviculture but showed how forestry may be humanized and made entertaining to laymen. We believe this talk was a masterpiece in forestry presentation for public audiences. We have been listening to forestry a long time and it is not recalled that in any utterance it has been our fortune to hear such a complete revealment of a method of putting forestry over to the lay mind. There are speakers who appeal because of their logical reasoning, others whose persuasive power lies in oratory, or in emphasis or in enthusiasm but there was no effort at oratory, no marked system of linguistics, no unwonted exuberance in Director Zon's method. The subject was, of course orderly presented. But by way of sustained interest and the driving home of the point of the argument by allusion to well known traits of human character and human situations the problem of convincing presentation was worked out to a remarkable degree. Through this method of illustration, his talk, "The Forest a Plant Society," interests, entertains, instructs, and is remembered.

(Extract from News Letter for July, 1929 of the N. Y. State College of Forestry at Syracuse University).

Edit:

Not everyone of us has the happy faculty of being able to lighten a talk on a scientific subject by occasional humorous touches. However, we can learn to present the subject in a popular manner.

A discussion in the Blister Rust News on the subject of presenting blister rust control to an audience might be of value, particularly if given by some of our more experienced agents.

In this connection I have taken the liberty of presenting again a resume of Mr. Peabody's talk before the 12th Annual Blister Rust Control Conference in Albany on "Public Speaking in Blister Rust Control Work."

R.G.P.

PUBLIC SPEAKING IN BLISTER RUST CONTROL WORK

By G. E. Peabody,
Instructor in Extension, Cornell University.

Up until a few years ago, the training in public speaking was all for such professions as politics, the law, the ministry, and for entertainment. There was no special training for men doing the type of work you are doing. At Cornell we have tried to meet this need and are giving a course for extension work.

Apparently the only requirement for specialist work has been that the specialist be thoroughly trained in subject matter. The ability to interpret this subject matter has only too seldom been made a requirement. Not everyone can become an orator, but anyone with ordinary intelligence can become an effective speaker, and with attention to a few simple rules and practice can put his ideas across.

Most specialists think that the only important thing in a speech is - what is said. This is important, but what is more important is - what the audience gets.

Preparation of material

1. Determine objective or aim.
2. Analyze material -

Don't try to make more than two or three major points in any one speech. You can not tell all you know in an hour. If you could, the audience has some rights. It can not be expected to find out all you know in an hour. If it can, you are in the wrong business.

Prepare a good introduction. The introduction should get attention and state the objective.

Then prepare a good outline.

Keep up to date on material.

Use local illustrations first.

Be careful in use of illustrated material (charts, maps, etc.). Never use charts that are not perfectly legible to most of your audience. If too small, they are of no use.

Use concrete language and simple terms.

Use of humor: A dangerous weapon - effective if well handled. Effective against speaker if not. Nothing will spoil talk more than a story that has fallen flat. Use stories from own observation.

Human interest important thing.

Know material.

Delivery of Speech:

Most important thing is to talk to audience, not at them. Develop conversational style - study audience - watch reaction. Try to overcome mannerisms. Speakers getting away from exaggerated formal gestures. Use simple natural gestures, if you want to.

Posture: Very important. Take it easy - don't be stiff - don't be uneasy

Voice: Let voice out. Don't have to shout. Don't be afraid you are going to speak too loud.

Discussion after talk:

In answering questions, get question clearly and restate it. Answer to whole group.

Remedy for questioners who are trying to get your goat - "Can't quite get you; will you please rise and state your name." This is very effective if put over in the right way. Speaker has legitimate right to treat them that way.

Plain licorice good for throat trouble.

Use of illustrated material:

Know your charts and talk to audience. Face audience. In giving lantern slides and motion picture talks, give outline of important things, before talk. The audience should be prepared for what they are to see in the pictures.

Remember

Have something to say, say it, and quit.

Discussion

Mr. Detwiler: What is meant by "human interest."

Mr. Peabody: Use concrete examples - tell things that interest and affect people.

Dr. York: To what extent should a speaker talk at a slide lecture?

Mr. Peabody: Give brief outline before talk - avoid monotony - know your slides. Good thing to talk while slides are being shown.

Mr. Pierce: Would you recommend distributing something that the audience can take with them? If so, when should they get it?

Mr. Peabody: Yes, but it should not be given before talk, as it detracts attention.

Mr. Newman: Would it be advisable to give a resume before showing a flim?

Mr. Peabody: Recommend it before showing slides and motion pictures.

Mr. Cullen: Asks suggestions for effective ending for talk.

Mr. Peabody: Talk should end rather vigorously, and bring out fundamental things you want audience to get.

Mr. C. E. Baker: What would you suggest when speaker has to run his own machine?

Mr. Peabody: Use own judgment - talk to audience before.

Mr. Filley: One of my faults is talking too fast. It is fatal to hesitate in the middle of a sentence.

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A WORD OF PRAISE

I was glad to note Hurford's comment in the August issue of the NEWS to the effect "It is best to give the blister rust crew the benefit of the doubt in any complaint", until it is possible to thoroughly investigate the same. I know of no group of men who are obliged to take more "cheap talk"; to listen to more threats; and to answer more arguments, than blister rust control employees, particularly when engaged in the removal of cultivated Ribes. Notwithstanding, I have yet to find an employee who has acted other than any human being would be expected to act under the same circumstances. In the matter of complaints there are, of course, occasional errors in judgment, but I fail to recall a case where any appreciable blame could be legitimately attached to a blister rust employee when all the facts were known. There are few positions where a man has to exercise more patience; use quite as much tact, or be quite as diplomatic as does one of our men when engaged in the removal of cultivated Ribes.

C. C. Perry, Mass.

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BLISTER RUST CONTROL DEMONSTRATION

The following notice appeared in the official program for the 88th Annual Exhibition of the Housatonic Agricultural Society, The Great Barrington Fair, September 24-27, 1929, Great Barrington, Massachusetts:

"At the south end of the grounds there is on exhibition a display arranged by W. J. Endersbee, who is in charge of white pine blister rust control in this section of the State.

"Mr. Endersbee and his assistants will be pleased to interview property-owners and explain the work which the Federal Government and State are doing.

"Several specimens of blister rust are shown at this display."

This statement of Endersbee's occupied a very good place on the program, being directly opposite the page of concert programs.

R. G. P.

FIGHTING FIRES IN THE FORESTS

Well Organized Crews Toil Methodically, With Backfire as the Most Effective Weapon - The General Plan of Campaign

The summer of 1929 will long be remembered by foresters, woodsmen and settlers in remote wooded regions as a season of anxiety and fear. Days of low humidity and long periods of scant rainfall kept the forests highly inflammable. No one knew when or where forest fires would next spread destruction. The newspapers almost daily carried reports of considerable fires, difficult to control, which threatened and in some cases consumed not only extensive tracts of valuable timber but isolated homes, small villages and even took toll of human life. Although the largest and most spectacular conflagrations occurred in the Northwest, some Eastern States also suffered much damage.

Forest fire fighting is not just a laborer's job. Like practically all classes of physical work in this scientific age, fire fighting is now carried on under a definite system of organization, which designates to each man a certain tool to use and a certain position in the crew.

A forest fire-fighting crew consists usually of from six to twelve men under the supervision of a warden or a ranger. On large fires, where from 50 to 300 or more men are employed, the crews are ordinarily supervised by an experienced ranger or forester. On a small fire, ten acres or less in area, one crew usually is enough to extinguish it in a few hours. On larger fires at least two crews are used.

A Fire-Fighting Crew

The organization of a crew of ten men includes, in the order of their positions on the fire line, two axemen, sometimes called swampers, who remove the larger trees and logs in the path of the fire line. Next follow four men who use brush-hooks for cutting smaller bushes and saplings and special rakes and shovels for cleaning the ground of leaves down to the mineral soil.

Then comes a torchman, who sets the back-fire along and inside the cleared trail cut and raked by these men. After the torchman comes a man carrying a tank of water strapped to his back. He dampens down the line and extinguishes any sparks which may ignite dry stuff on the unburned side of the path. The others of the crew carry additional tanks, axes and rakes and act as a rear guard to prevent the spread of back-fire across the path.

As important as having a well equipped fire crew under an experienced foreman is the proper method of attack on the fire. A forest fire, to be fought successfully, cannot be attacked at random. A fire in the woods tends to burn hardest with the wind and consequently there is always one point at which it burns fastest and fiercest. The point is called the "header". To attack a fire at any place other than the "header" is futile, for the crews might never surround the blaze if the "header" burns at a rate much faster than the crews work.

The Method of Attack

Accordingly, the crew often attack a fire considerably in advance of the oncoming "header". If the fire is burning up the side of a mountain, as is frequently the case, the crews will begin work at a point anywhere from several hundred yards to a mile or more ahead of the onrushing blaze.

Sometimes the crews are able to take advantage of a natural backline, such as a road, trail or stream. If such a barrier is present to work from they set a back-fire along the barrier on the side toward which the "header" is approaching and then guard the line well. If on natural line is present, two crews, at least, start work at a designated strategic position to make a line, cutting, raking and setting a back-fire as they work away from each other and their common starting point.

The proper use of back-fire is the great solution of the problem of fighting forest fires. Other methods are used, but back-firing is the method mainly relied upon. In fact, it is almost the only successful way to combat large fires. Beating out a fire cannot be managed when the flames are high; it has, as a system the added drawback of sometimes being the means of scattering more fire. Then, too, that part of a fire line that has been beaten out is never safe, inasmuch as one spark may fall in dry leaves, smolder unnoticed and later burst into flame. Such an outbreak of a forest fire is often more difficult to bring under control than the original fire.

The Use of Water

Fighting fire with water is the easiest method to use, but it too, has one great disadvantage as a system - water is not always available. In the country, portable pumps have been successfully used. but the length of hose and force required to get water to a point on a mountain high above a lake or stream make this system impracticable except in very favorable localities.

Forest fires are fought most easily at night, when the heat of the sun has passed and the relatively higher humidity and dew-fall make the forest floor less inflammable. Days of low humidity and strong winds during periods of drought bring the fire-fighters constant worry.

With sufficient crews, adequately equipped, the rangers manage to get most fires extinguished by morning of the second day. Fires sometimes burn stubbornly for several days, or even weeks, however, and resist the efforts of veritable armies of men.

At such times the city man who quits his work for the day at 5 o'clock does not realize that the big fire of which he reads in his newspaper means for the fire-fighters that the day is not done till the fire is out, and that on some rugged mountainside deep in the woods grimy, sweat-streaked workers will toil all night long with aching backs over a rocky terrain to defeat the fire that probably has been let loose in the woods by some one's carelessness.

Henry Clepper, Pa.

(Extract from the "New York Times", September 7, 1929.)

Edit:- Mr. Clepper is in charge of blister rust control work for the Pennsylvania Department of Forests and Waters under the direction of Mr. George H. Wirt, Chief of the Division of Forest Protection.

SECRETARY HYDE ADVOCATES TIMBER GROWING ON MARGINAL LANDS

In a letter of thanks to the Michigan Kiwanis Club for their gift of 5,000 acres of young pine trees planted at their expense on barren land in the Huron National Forest and dedicated August 30, at ceremonies held at East Tawas, Michigan, Secretary of Agriculture Arthur M. Hyde, advocated a reduction in the amount of low grade farm lands now under cultivation and their conversion to timber-growing. Last year the same organization made a similar planting and presented the plantation to the Government.

Secretary Hyde, who had intended to be present at the dedication, was compelled to cancel his engagement because of other official demands and was represented by E. A. Sherman, associate chief of the Forest Service. In a message accepting the Kiwanis forest plantation on behalf of the Department of Agriculture, which is responsible for the administration of the National Forests, Secretary Hyde said:

"Your forestry problem in Michigan is indeed a most serious one. Magnify it many times and you have the forestry problem of the United States. That problem consists in finding ways to keep one-fourth of our land area productive to supply about 25 billion cubic feet of wood a year to perpetuate industries that employ over a million men and turn out products valued at more than two billion dollars a year, to obtain the full benefit of forests in conserving soils and waters, and to preserve the important social values of forests.

"One of the most important elements of the farm problem is the proper utilization of land. Our national heritage covers 1,903,000,000 acres. Of this 505,000,000 are classed as improved farm lands, capable of producing crops. Only about 350,000,000 acres are actually producing crops. On those 350,000,000 acres, American farmers, the most efficient in the world, are annually producing vast stores of foodstuffs, which not only supply the demands of our own 120,000,000 people, but overrun domestic need into the markets of the world.

"It is hardly too much to say that American farmers could, by using intensive methods on the whole 505,000,000 available acres of farm lands, double the crop. This would result in an enormous surplus, and disastrously break the price. The question of land utilization is therefore important. The threat of possible surpluses too great to handle is always present.

"Marginal and submarginal lands, whose yield is so low and cost of production so high as to make profitable farming impossible, ought not to be farmed. They produce in the aggregate millions of bushels of farm products, but at a prohibitive cost. They take a heavy toll of national resources through erosion. They afford a standard of education far below the average. They depress the price of products from farms which might otherwise be prosperous. Life is maintained only at the cost of a standard of living so low as to be completely out of line with normal American standards.

"Bare watersheds add to our national flood menace. Reforestation should not be considered solely from the standpoint of timber supply. Great social and recreational values are involved. The waste of national resources forms an important element. Flood control is another. It is worthy of thought whether the reforestation of every capable acre of publicly-owned land, and the purchase and forestation of many privately-owned submarginal lands upon our watersheds, would not be a sound and practicable measure of national economy."

(Extract from "The Commercial Bulletin," Boston, Massachusetts, Sept. 7, 1929.)

KNOTS IN WHITE PINE NOW DEMANDED BY WOODWORKERS

Vogue for Part Formerly Scorned Due to Craze for Colonial Furniture.

Fashion has brought about a strange change in the fortunes of the common white pine. Where once it was the smooth, easily-worked grain of its soft white wood that accounted for its popularity, now the knottiest parts are the ones demanded at the planing mill. This is due to the craze for early American furniture, which, as the Colonists disregarded the knots and left them in prominent places in their handiwork, must imitate the old pieces even in their imperfections.

The white pine has been so much sought after by the lumberman that the giants once abundant in Maine and Vermont have entirely disappeared, and old trees are hard to find anywhere south of Canada. It has become established as one of the most valuable of North American timber trees. In the past the part of the tree that was poor, discolored and knotty was either thrown away or used in packing boxes. Now the plank that the builder rejected has become the front of the cornice.

The fountain-head of the knotty pine industry is said to be an ancient pine-paneled room in the American wing of the Metropolitan Museum of Art. To this display have come many visitors whose purpose it is to analyze the effect and find some way of reproducing it with new materials. The visits are followed by experiments, trying out different types of boards and stains, and waxes for rubbing to get the gleam of old age. The pine-paneled effect is now found in many new Colonial-style country houses and even in city offices.

Architects' advisers from the factories of paint and varnish manufacturers have also studied at the Museum, and there has appeared on the market a stain called "knotty white pine" with full directions for "antiquing" the boards. It is used mostly by professionals, but amateurs occasionally try it.

The New York planing mill is ready to serve the amateur woodworker in the matter of knotty white pine. One needs only to present figures on the size of the boards wanted, and the material is delivered sawed and sandpapered. The foreman knows what is wanted - good, firm knots that will not fall out, medium-sized and distributed symmetrically - and he has boards set aside in a grade named for its knots.

(Extracts from the New York Times, Sunday, September 22, 1929.)

Comment on the Above Article

1925 - Foresters and others lament the low grade and low value (due to knottiness) of second growth northern white pine. Silviculture (if any) aimed at producing clear lumber. Protection of second growth neglected.

1935 - Knotty white pine lumber for interior trim becomes all the rage; second growth white pine with knots (even pasture pine) in demand by the trade. Lament of the foresters all for naught, also their shortsighted plans of silvicultural management of white pine. Large losses in second growth stands loom as result of lack of protection.

Moral - A more highly developed utilization of forest products is necessary as a sound basis for silvicultural management.

A M O N G O U R S E L V E S

Dr. J. F. Martin returned to the Washington Office the first of October from a field trip through the Northeastern States.

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Mr. H. P. Avery, who has been temporarily engaged in work at the Spokane Office, returned to Washington October 2. Mr. Roy Calhoun, Acting Head Clerk during Mr. Avery's absence, left October 11th for Spokane.

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Several of our blister rust agents in the East have been temporarily transferred to the Plant Quarantine and Control Administration to assist in quarantine inspection work; Mr. A. J. Lambert being transferred September 15, Messrs. F. H. Rose, L. W. Hodgkins and W. E. Bradder on September 30, and Mr. H. J. Ninman on October 1.

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Mr. Bernard A. Anderson of the Spokane Office is planning on visiting South American and European countries during the next few months for the purpose of examining forestry conditions and practices.

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Messrs. Roy G. Pierce and Charles T. Geiser returned to the Washington Office September 27th from an extensive scouting trip through Virginia, West Virginia, Maryland and Pennsylvania.

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Mr. H. E. Swanson, agent at Spokane, Washington, resigned September 30.

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Mrs. Elarion M. J. Jump received an appointment as Jr. Clerk at Spokane, Washington, September 16.

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It was with deep regret that this office learned, of the death of Mr. Herbert Judson in an automobile accident October 2, near Grant's Pass, Oregon. Mr. Judso was employed as a temporary agent at Corvallis, Oregon, until September 25, 1929.

Mr. J. L. Bedwell of the Spokane Office was furloughed to permit him to take graduate work at Yale University. Mr. Bedwell left for New Haven September 11, 1929.

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Mr. Gerneaux Hartley, Jr. Clerk in the Washington Office resigned September 30th to attend Georgetown University.

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With the Bowlers at Washington

While no sensational scores have been made as yet this season by the Blister Rust quint, there has been a satisfactory consistency to the bowling and at present the Office team is tied for second place. With the team hitting on all five, we are looking forward to a successful season.

O F F I C E C O M M E N T

(A-28083)
9 Comp. Gen. 48

LEAVES OF ABSENCE-MILITARY-NATIONAL GUARD MEMBERS PARTICIPATING IN A PARADE

A civilian employee of the United States who is also a member of the National Guard of a State is not entitled to military leave under section 80 of the act of June 3, 1916, 39 Stat. 203, while absent from duty participating in a "parade", such parade in itself not constituting field or coast-defense training within the meaning of the act.



11

II

BLISTER RUST

NEWS



November, 1929.

Volume XIII

Number 11.

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
Office of Blister Rust Control



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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister Rust Control
and the Cooperating States.

Vol. 13, No. 11

November, 1929

COMMENTS ON THE WARRENSBURG (N.Y.) CONFERENCE

The writer having had a voice in the preparation of the itinerary for the Annual Blister Rust Conference can, without fear of leading the reader to think he is a chronic critic, offer some comments on the success of our recent conference. It is generally understood that whispering comments are a matter of course at almost any conference. Many times semi-secret suggestions or criticisms are just and proper and should be noted when brought to the attention of those who are interested in making each Blister Rust Conference more interesting than the former.

It seems reasonable to believe that remarks on our past conference did not all reach the ear of the writer, and he hopes that others will note both favorable and unfavorable comments that may in some way have been brought to their attention, so that advantage thereof in planning future programs can be taken. Only a few of the suggestions offered will be here given. Others will be useful in preparation of future programs but are not matters for publication. The comments follow:

1. - Evening meetings unfavorable.
2. - No time given for general get-together.
3. - Stop at Faxon and Starbuck white pine lots, these being the last two before lunch Saturday noon, entirely foreign to blister rust and did not belong in our program.
4. - Road selected for trip from Starbuck property to hotel required too much time, another route should have been followed.
5. - Conferees unable to get accommodations, as program advised.

In listing the above it is with full realization that it is next to impossible to prepare a program for any conference that will suit the taste of all the conferees. It seems, however, that there is some food for thought in some of the comments that are referred to.

It is, of course, impossible to arrange field trips so that all travel can be made over macadam roads. It was possible at our recent conference to arrange the trip in a way that travel over some of the rough roads could have been eliminated. When the trip was planned, it was with the idea that the route laid out offered a long range of vision from many points, but which of course was lost on account of the dull weather encountered.

I do not believe that any of the comments or criticisms, if they might be so termed, were made with serious intent. They do, however, offer a suggestion on points that were not entirely pleasing to some and should be eliminated, insofar as possible, in the preparation of itineraries for such meetings.

H. L. McIntyre,
Supervisor, Forest Pest Control, N. Y.

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MORE COMMENTS

The above comments by Mr. McIntyre are quite apropos - and I am glad that he has led off with constructive criticism. On the whole, the comments which I heard concerning the conference were very favorable, especially concerning the place of holding the meeting, the plan of longer field inspections and shorter inside sessions, the carefully arranged and well marked plots, the striking examples of blister rust damage seen and the detailed data given concerning each plot.

On the other hand, it was suggested that while the mimeographed material covering the auto tour of each day was full and fairly good, yet it could have been better if some figures had been given concerning each plot, figures which could be referred to later when needed for purposes of illustration or publication.

Mr. McIntyre and the New York men, Mr. Filler and others who made this conference what it was, are to be congratulated on the carefully worked out program.

Agents who have never conducted an auto tour of inspection and demonstration in their Districts can take a leaf for their notebook from the tour of interesting and instructive points in Warren County, N. Y. which we made at our recent conference.

R. G. Pierce

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IMPORTANT DISCOVERY OF RIBES INFECTION IN OREGON

On September 24, Root and Harris discovered Ribes infection at two points in Curry County, Oregon, (in the extreme southwestern corner of the State bordering California) about 7 and 15 miles, respectively, south of Port Orford. This represents a substantial extension in the southward spread of the disease on the Coast, being less than 50 miles from the Oregon-California line.

(Extract from Western Blister Rust News Letter, Vol. 4, No. 10, Oct. 15, 1929)

EUROPEAN BLACK CURRANT SEEDLINGS SHORT-LIVED

In August, 1929, Mr. Noble H. Harpp, Blister Rust Control Agent, collected a number of seedlings of a black currant in Otsego County, New York, which were identified as Ribes nigrum, the European black currant.

Mr. H. L. McIntyre in charge of Plant Pest Control in New York, writes on October 24, concerning this seeding of black currants:

"It seems to be the opinion of everyone connected with the blister rust control work in this section that the cultivated black currant (Ribes nigrum) does not reproduce. There have been occasions when small seedlings have been found where these bushes were previously uprooted, but apparently in every instance these seedlings later died out, the thought being that they will not winter over. All of our agents were supposed to get some information on this subject and report on their findings at our annual conference that was held at Saranac last week. The above was the consensus of opinion at that meeting."

The small seedlings that were collected in August in Otsego County by Mr. Harpp, would, according to the thought of everybody concerned, probably have been killed out this winter had they been left in the place where they were found.

Edit:- Mr. Hurford, who has eradicated many hundreds of European black currants, should be in a position to state whether this currant reproduces in his State.

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DATA NEEDED ON COLLECTION OF SPECIMENS

Recently specimens have been received in the Washington Office for identification with neither date of collection, place of collection, or name of collector. Sometimes specimens such as these have been sent in with undated or unsigned letters. It is then difficult after examination of the specimen to properly identify it to the sender. Not only for purposes of identification but for the information of the agent, and of the Washington Office, should specimens be properly marked and not submitted in the above careless and haphazard manner. If more than one specimen is sent in, and the agent desires to keep special record of each, he should number them. In the case of Ribes leaves it would be advisable for the agent to collect several leaves of each bush to be identified, putting them in separate envelopes marked 1, 2, 3, etc., and giving other essential data on the envelopes, sending only part of the leaves to the Office for examination. On receipt of information that No. 1 is R. nigrum, No. 2, R. americanum, No. 3, R. aureum, as the case may be, the specimens which have been retained may be correctly marked and retained for purposes of comparison in the future. When forwarding black currant leaves to the Office, include part of the stem of the current year's growth for this will assist in proper identification.

R.G.P.

SCHOOL CAMPAIGN IN MICHIGAN

Mr. D. J. Stouffer writes that all of the Upper Peninsula and most of the counties in the upper two-thirds of the Lower Peninsula of Michigan, are taking part in the school survey this year. The results as yet are incomplete and reports, therefore, of the value of the school work will not appear until later. About 4,500 packets of educational material were made up and sent to the schools. Mr. Stouffer says:

I expect the returns this year will be greater than those received last year, although conditions for infection were not as favorable and we may not find as many infected counties or reports containing infection as we did last year.

The Grand Traverse infection reported through the school survey is located about four miles south of Traverse City and only about eight miles from Interlochen State Park, which contains an area of about 208 acres entirely covered by mixed red and white pines. It is perhaps the best stand of pine left in the Lower Peninsula outside of the Hartwick tract at Grayling. Blister rust control measures were carried out in the park this past season. About 1,300 Ribes bushes were pulled, all of which were located in one small ravine. No blister rust infection had been previously found in Grand Traverse County and we certainly rest easier now that we know the Interlochen Park is safe even though the blister rust is as close as the school survey shows.

During the Fair season, which was over about the first of October, a number of blister rust demonstrations were made and material shown at the following places in connection with the regular Department of Agriculture exhibit:

Ionia Free Fair, Ionia.
State Fair, Detroit.
West Michigan Fair, Grand Rapids.
Cadillac Fair, Cadillac.
Upper Peninsula State Fair, Escanaba.
Eaton County Fair, Charlotte.

The demonstration at the Marquette County Fair, which was noted last month, was in charge of the crew working on black currant eradication in Marquette County and was gotten up almost entirely by them.

WANTED - A NEW COVER PAGE!

For the last 6 years the Blister Rust News has had its present cover page. Not only has the Fifteenth Annual Blister Rust Control Conference gone on record as favoring a change in the cover page, but word has been received from others to the same effect. It has been remarked that our News Letter is one of the best put out in the Bureau of Plant Industry but that the cover page is a disgrace. It looks, therefore, as if it were time to change. The editor would appreciate receiving by December 15 any suggestions as to the character of the new cover page, a full-page drawing being preferred.

RATTLESNAKES ARE AID IN ASSURING RUST ERADICATION

Harrisburg, (Pa.), Nov. 20. - The Rattlesnake Run eradication project completed this summer in the Sproul Forest District, Clinton County, to protect valuable white pine stands of the region from infection by the blister rust disease, was a true eradication job in more than one sense of the word, according to officials of the Pennsylvania Department of Forests and Waters.

The eradication crew engaged in the removal of all currant and gooseberry bushes in the vicinity of white pine trees, working under supervision of Forest Ranger Robert Drake, covered 85 acres in seven working days and destroyed 26,761 Ribes bushes, 23 rattlers and one copperhead. There were no casualties.

Assistant Forester Tom Williams remarks that in the Hyner Run section the snakes were not so prolific, for there the crew averaged only one rattler a day, although once they got three in one hour. "The presence of a few rattlers keeps the men's eyes on the ground, and insures that every inch is thoroughly covered, and furthermore," adds Williams, "you would be surprised to see how closely they stick together in line, especially those who are not yet used to 'bell fish' as the snakes are locally called. These fellows keep near the men who are experts in killing rattlers."

(The above article was sent in by Dr. W. A. McCubbin of Pennsylvania.)

Edit:- Note that attention-getting phrase in the heading. That's what we need in our news items written for local papers.

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RHODE ISLAND AGRICULTURAL WORKERS HOLD INTERESTING
"GET-TOGETHER" MEETINGS.

Some of the local agricultural workers have felt that they were not filling their own jobs as they should because they did not always understand the other problems in Rhode Island Agriculture. A desire to bring about better cooperation and to exchange ideas led to the starting of informal evening get-togethers. Now seventeen men, chiefly public employees in agricultural work, meet twice a month to discuss agricultural subjects. There are no officers in the group, each member taking his turn as chairman of the evening. The Blister Rust Control Agent has been acting as Secretary in announcing the meetings and arranging the programs. The spirit of group cooperation has aided all the men in their individual fields. Blister rust control has been both directly and indirectly helped. Where several agricultural workers live within driving distance, such informal conferences or discussion meetings are worth while, and might interest other blister rust men. It does not hurt us to know something besides blister rust control when we come in contact with the public.

A. W. Hurford, R. I.

WHITE PINE BLISTER RUST IN PENNSYLVANIA

Blister rust infections were known to be present on white pine prior to 1929 in a number of counties of Pennsylvania, among which were Berks, Cambria, Montgomery, Clarion, Potter, Susquehanna, Cameron, Clinton, Lycoming, and Wayne.

The Pennsylvania Department of Forests and Waters, which is charged with the protection of forests in the State, began a re-survey during 1929 to determine the distribution of blister rust infection on white pine, the extent of damage, the approximate length of time the rust had been present on the trees, and the control measures that would be necessary.

Blister Rust on State Forests

The State forests in Pennsylvania now total approximately 1,500,000 acres. White pine is present in varying quantities on much of this vast acreage, and is especially abundant in the northern tier counties of the State. The task, therefore, even to find out just where blister rust infections are present on the State forests, is not a small one. During 1929 blister rust was found on white pine in 17 additional counties. There are 67 counties in the State.

Although the present year marks the beginning of a State-wide survey of the blister rust situation under a program of general control, Ribes eradication had been carried on in certain forest districts as early as 1916. Prior to 1929, Ribes eradication projects were started around the Clearfield State forest tree nursery in Clearfield County, the Cook Forest in Clarion County, and the Wykoff Run plantations in Cameron County, and on privately owned lands in Wayne County.

The Department of Forests and Waters allotted funds for the present fiscal year which will permit eradication work on all the areas on State forests where blister rust was found during the present summer. The control will include about 50 eradication projects on approximately 4,000 acres. This work includes only initial crew eradication, and does not include eradication by scouts, which is handled, as is the regular scouting, by the permanently employed personnel of the Department. The blister rust situation as it affects the State forests is being given careful consideration, and funds have been assigned for eradication as new infection areas have been located. The method employed varies somewhat from those in vogue in other States. Where rust was found on the State forests in white pine stands, which are of sufficient value and size to warrant control, funds for Ribes eradication were appropriated to the district forester in whose district the infection occurs. With a hand-picked crew of local men under the supervision of a ranger or the assistant district forester, immediate eradication work was started.

Blister Rust on Private Land

Control measures on private land have gone hand in hand with the work on the State forests. The system necessarily differs in many respects, inasmuch as the control work on private land is done at the expense of the owner, but it has been under the supervision of the district foresters.

The local government of the minor civil divisions in Pennsylvania is entirely different from that in New England, and accordingly it would be impractical, if not impossible, to attempt control measures by townships or counties. Many private land owners, especially water companies, have already made plans for Ribes eradication on those areas where scouting by State foresters has shown such procedure to be necessary for the preservation of their white pine crops. Farmers and other small-woodlot owners are also beginning control work.

The Blister Rust Situation

The present blister rust situation in Pennsylvania is not, on the whole, a critical one. However, the disease is established and it can no doubt be expected that the spread will be more rapid in the favorable locations. Infected areas are being recorded, both on State and on private land, and a program of control which will extend over a period of years has been started.

The fact that infections were found during the past summer in practically every forest district covered does not indicate that the disease has been generally destructive. Only a few infections were sufficiently severe to kill young trees; for the most part they were spot infections. Although the blister rust appears to be well distributed where white pine is found in Pennsylvania in any quantity, the general infections are light. Even though the situation is not immediately critical, there will be no lessening of the scouting and control measures already started. This condition, however, will permit of a more careful and efficient progress than would be possible were hasty action required.

Foresters in Pennsylvania are fully aware of the fact that what may be a light infection now will undoubtedly result in a wide-spread infection in a few years. On this basis is being built the eradication program for the future. Re-eradication necessities are not being overlooked; the Clearfield nursery, with its large plantations of white pine surrounding it, is one of the re-eradication projects listed for the spring of 1930.

White pine is the principal tree grown in the State forest nurseries and the heavy investments in white pine, both planted and natural, on private and State forests, demand that adequate protection be afforded against losses by the blister rust. Nearly 20,000,000 white pine trees have been distributed to private owners from the State forest tree nurseries, and more than 21,000,000 white pine trees have been planted on the State forests in Pennsylvania.

The blister rust control problem in Pennsylvania promises to be far from an impossible one. The Department of Forests and Waters has a well organized personnel, which covers through its system of forest districts, the entire State. The district foresters will to a large extent have the same status in respect to blister rust control, as the blister rust agents in New England. Their contact with the general public through their control of

forest fires and other forest protection activities will permit them to assume this added responsibility of blister rust control in their respective districts with greater efficiency than would be the case were an entirely new personnel to take over the work. Thus blister rust, along with forest fires, has taken its place as a forest protection activity in Pennsylvania.

Henry Clepper, Pa.

(Extract from the Service Letter of the Pennsylvania Department of Forests and Waters, Series 2, No. 332, Oct. 31, 1929.)

SUMMARY OF BLACK CURRANT ERADICATION SEASON IN R. I.

During the past eradication season, from April 22 to October 26, 5,703 European black currant bushes growing in 459 plantations were located and destroyed in twenty-two Rhode Island townships. After August 20, when blister rust first became conspicuous on the Ribes nigrum leaves, 86% of the bushes showed infection. This percentage increased as the season advanced indicating that close to 100% of all Ribes nigrum bushes would have been found diseased if examined just before the leaves started to fall. Our data on the work certainly show that European black currant eradication is necessary in Rhode Island.

Inspection during the next year or two of some of the spots where black currants came out this season may indicate the extent to which seedlings come up and whether they survive.

A. W. Hurford, R. I.

CURRANTS AND GOOSEBERRIES: THEIR CULTURE AND RELATION TO WHITE-PINE BLISTER RUST.*

The currant and gooseberry industry must be considered in connection with the preservation of our valuable white-pine timber. The white pines are a great national asset, essential to forestry development in this country. ***.

Cultivated black currants, sometimes called the European or English black currant (Ribes nigrum L.), are more susceptible to white-pine blister rust than any other type of currant or gooseberry. ***.

The United States Department of Agriculture recognizes the cultivated black currant as a distinct menace to the white-pine timber supply of the country. It is a menace not only to the thousands of farm owners who grow white pine in their wood lots or in their shelter belts and dooryards but also to all citizens, since all use white-pine lumber directly or indirectly. The common cultivated black currant is so serious a danger to the production of white-pine timber as to make this currant a public nuisance in all States where white (five-needle) pines grow. The department is opposed to the growing of this species of currant (Ribes nigrum) anywhere in the United States and recommends that state authorities, nurserymen, and growers take active steps to accomplish its elimination from the Pacific, Rocky Mountain, Atlantic, Appalachian, Ohio Valley, upper Mississippi Valley, and Lake States. ***.

* Farmers' Bulletin No. 1398, Revised September, 1929. By George M. Darrow and S. B. Detwiler.

NEW YORK BOTANICAL GARDEN HAS COLLECTION OF FIVE-NEEDED PINES.*

Of interest to the workers in blister rust control who pass through or drop into New York City is the fact that there is a collection of five-needed pines at the New York Botanical Gardens which it might pay to see.

Among the species listed by Mr. Fulling are:

P. Cembra, Swiss Stone-Pine of Europe and Siberia

P. excelsa, Himalayan White-pine of the Himalayas

P. flexilis, Limber Pine of western North America

P. koraiensis, Korean Pine of northern Asia.

P. parviflora, Japanese White-Pine of Japan

P. peuce, Macedonian Pine of southeastern Europe

P. strobus, Eastern White-Pine of eastern North America

Pinus cembra: Referring to these pines in the Botanical Garden the author writes: "The seven similar compact trees nearest the foot of the rocks more to the right are also Swiss Stone-Pines. Most prominently we notice the very compact, symmetrical, and rounded-pyramidal contour of these trees, a very pleasing feature that makes them highly desirable for ornamental use. It is a youthful shape assumed in cultivation, whereas, naturally, older trees are of taller and less compact habit. They are exceedingly hardy and slow of growth.

"The Swiss Stone-Pine or, as it is sometimes called, the Arolla or Alpine Pine, has a very extended natural range. It is found in the central European Alps from Savoy to the Carpathians, and in northeastern Russia and northern Asia. In the valleys of the higher Alps, it is the only tree capable of withstanding the elevation and intense cold. Herdsmen, as a result, have destroyed whole forests of these trees for firewood and today they no longer are so abundant as formerly. However, they still cover immense tracts of country in Siberia, Tartary, Italy, and Switzerland, reaching to an altitude of 6,000 feet in the Alps. In Siberia, they become a dwarfed variety, pumila, and extend as far east as northern Nippon and Kamchatka.

"The seeds of the Swiss Stone-Pine are nearly as large as hazel nuts, edible, and are much relished in Russia and Siberia. In that country the gathering of them constitutes quite an industry. From the shells, an oil is sometimes expressed that is used for fuel in lamps. Squirrels, too, are fond of these seeds. For these reasons the cones seldom remain long enough to yield mature seeds. One record, nearly a hundred years old, states that the kernels of the seeds furnished an important part of a Swiss dessert, and that an essential oil was obtained by distillation from the young shoots of this tree after they had been macerated and steeped in water for a month. The liquid whitish oil thus obtained was known as Carpathian Balsam and in Germany was believed to possess extraordinary healthgiving qualities.

* Fulling, Edmund H. A Guide to the Pinetum. Bulletin of the New York Botanical Garden, Vol. 14, No. 51, August 30, 1929.

"The wood of this tree is of considerable economic value in alpine regions where it is native. It is white, soft, and fine-grained, with an agreeable odor that is obnoxious to insects. It is consequently used for lining clothes-closets in addition to its use for wainscoting, upholstery, cabinet making, and turnery work; it takes paint and polish well.

"The cones, which at first are purplish violet, later becoming brown, never open but fall when mature. The scales must rot away or be removed by man or beast to liberate the seeds. The needles are in groups of fives and the whole foliage is characteristically tufted. It is the only five-needle pine found wild in the Alps. Most distinctive of this tree is the prominent dense yellowish-brown hairiness on the young branchlets. The only other five-needle pine with which this one may be confused is the Korean Pine, P. koraiensis. In the latter the shoots are similarly hairy but the leaves are stouter and the teeth on their margins are more numerous and extend to the tip. The cones, moreover, are distinctly longer. The hairiness on the current-year shoots serves to distinguish the Swiss Stone-Pine from the next species."

Pinus peuce: In the Botanical Garden there are seven pyramidal trees which belong to this species. Some are close to the Swiss Stone-Pines. "These Macedonian Pines, too, are very fine, but have a less rigid foliage, not so tufted and bushy, and the young branchlets usually show a smooth yellowish surface.

"This tree has a very much more restricted range than the Swiss Stone-Pine. It is a native of southeastern Europe, being confined to three small areas in Macedonia, Bulgaria, and Montenegro, at elevations ranging from 2,500 to 6,000 feet.

"From the contrast displayed in the planting it might be supposed that the Swiss Stone-Pine is normally smaller than the Macedonian. Both, however, may attain to a height of 100 feet in their native ranges. The Macedonian Pine, too, is a five-needle pine and together with the Stone Pine and the native Eastern White-Pine *** is regarded as one of the best five-needle pines for northern regions as far as Ontario, Canada.

"The wood of this tree, though straight-grained and easy to work, has little commercial value outside its native country, and even there the difficulty of its extraction limits its usefulness. In this country the tree has only ornamental value."

Pinus parviflora var. pentaphylla: This tree has a very different shape from the preceding, having spreading branches and less compact habit. There are certain distinguishing features about the leaves - "their short tufted habit at the ends of the branches, a certain delicateness about them and their glaucous hue. Their shortness and whitish lining serve to distinguish this one from other five-needle pines. Moreover, the flat-topped head is characteristic of mature trees. It is one of six different pines native to Japan and is the Japanese representative of our Eastern White-Pine.

"The Japanese White-Pine is not normally a tall tree, averaging from 40 to 60 feet in height, though occasionally it may attain 90 feet in the forests of Japan. In cultivation, however, it seldom is over 20 feet high. To the Japanese it is known as Goyo-matsu and Hire-komatsu. Its wood is used for general construction purposes in Japan, and the trees themselves are extensively cultivated for ornamental purposes. They are the favorites of the Japanese gardeners for pot culture and are dwarfed and trained into many kinds of fanciful shapes. These gardeners graft this pine and others on the stock of the Japanese Black-Pine, P. thunbergii. This operation of grafting a soft on a hard pine is, as a rule, unsuccessful. But in the hands of those skilled workers the natural incompatibility is partially overcome and the stunting results in the odd forms we recognize as Japanese.

"This species, though it grows wild in Japan, seems to have been named a variety, var. pentaphylla, of the tree which is much cultivated in Japan, P. parviflora. This apparent departure from the usual practice in horticulture according to which varieties are generally named as forms of the wild type probably arose from the fact that the cultivated form might have been known and studied before its wild form was described."

Pinus nepalensis, or P. excelsa: "This tree is native to the temperate Himalayan region at elevations ranging from 6,000 to 12,500 feet between Nepal on the east and Afghanistan on the west. In its native habitat it attains a height of 50 to 150 feet and is one of the important timber trees, furnishing lumber for a great variety of purposes. Its fairly hard and durable wood works and finishes well. First class rosin and turpentine are obtained by distillation of the resin secured by tapping. In fact, next to Cedrus Deodara, the Deodar, this Bhutan Pine, as it is sometimes called, is the most important coniferous tree of its region. The roots yield an oil used to anoint the arms and legs of natives as a protection against water insects while they work in the wet rice fields. During the dry winter seasons there is a copious sweet manna-like exudation from the leaves which is collected and eaten by the natives.

"This species, with five needles in a cluster, is distinguished from all other pines of that class by its large horizontal lower branches and long drooping needles. ****. Because of the persistence of the lower limbs that hang close to the ground and turn up at their tips this tree must be given plenty of room in ornamental planting. The pendent leaves that droop from the lower limbs of mature trees are especially attractive."

(Continued in the December Issue)

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Mr. Roy G. Pierce gave a brief talk on blister rust control before the State Commissioners and Secretaries of Agriculture in the Bureau of Plant Industry on October 30, 1929. This Office was one of five in the Bureau of Plant Industry to have exhibits at this meeting.

CONSERVATION OF WATER IN THE WEST

White Pines Have a Part in This Conservation.

* "The real conservation problem of the West is the conservation of water," repeated Dr. Wilbur, Secretary of the Interior, upon his return to Washington last month after a summer spent in studying conditions in the West. "Plant life demands water," continued Dr. Wilbur. "We must have plants suitable for our own uses or we can have no civilization. From Nebraska west, water and water alone is the key to our future. We need the mountains and the hills and a great protected back country, or we cannot have sufficient water for our valleys. We must replace homestead-thinking with watershed-thinking, since watersheds are primary to Western homes. We can no longer afford to think only in terms of immediate uses and selfish interests. There must be a great Western strategy for the protection of our watersheds and the plant life on them, however undesirable and unimportant some of it may seem to be."

In the western States some of the lesser known five-needled pines assist in the protection of watersheds especially on the upper slopes towards timber line, and thereby fill a needed place in our national life. Among these are the bristle-cone pine (*P. aristata*), foxtail pine (*P. balfouriana*), limber pine (*P. flexilis*), Mexican white pine (*P. strobiformis*) and white-bark pine (*P. albicaulis*). The better known trees, western white pine (*P. monticola*) and sugar pine (*P. lambertiana*), growing at slightly lower levels than the above, are among the most important in the western States. The western white pine which in the Pacific Coast States is found between 300 and 11,000 feet elevation, and the sugar pine which is found between 1,000 and 10,500 feet, help form with other trees the important watershed cover.

R.G.P.

* Editorial in American Forests and Forest Life, Nov. 1929, p. 709.

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NOTICE TO AGENTS !!!!!

Now that the eradication season is over, ye blister rust editor thinks that there should be plenty of time in which to write up news articles for this office publication. Give us the results of some of your studies you have been making during the past season. These will be helpful not only to agents in your State but to agents in other States. If there are outstanding examples of the efficiency of Ribes eradication in controlling the blister rust where the initial work was carried on over 10 years ago and seedling pines are now coming in, this would make interesting reading. Are there areas in your district where the blister rust has been present over 10 years and where there are now no young seedling pines, the rust having killed them all? This would make an interesting contrast to the hypothetical case mentioned above.

It is very difficult to get out an interesting News Letter without many contributions from the field. The editor feels sure that there are news items available, if the agents would consider it part of their duty to provide them.

R. G. P.

THE FOREST OF THE NORTHWEST: THEIR RELATION TO NEW ENGLAND FORESTRY

By

W. N. Sparhawk - U. S. Forest Service.

"New England and the Atlantic seaboard of the United States are not the only regions that have recently experienced an invasion of great quantities of cheap timber, with consequent disturbance of the local timber trade and anxiety on the part of local timber owners. - - - - -

"The importance of these (west coast soft) woods was not significant until after the Panama Canal was opened, and not then until transportation rates were sufficiently reduced, after the war, to enable western lumber to reach the east coast at low cost.--Waterborne shipments from Washington, Oregon and British Columbia to Atlantic coast ports jumped from 50 million board feet in 1920 to 211 million in 1921, 666 million in 1922, and 1,265 million in 1924. In 1926 and again in 1927 they were close to 2 billion feet, and in 1928 probably about as much. In 1926 New England took approximately 300 million feet from Washington and Oregon. - - - - -

"In addition to the 300 million feet from the Pacific Northwest, New England imported 350 million feet of softwoods from the southern pine region in 1926, and more than 500 million from foreign sources, chiefly the maritime provinces of Canada. Only about 550 million feet of the softwoods used was sawed within New England itself. - - - - -

"Obviously, hope for better days for New England timber growers and operators lies in one or both of two directions. One would be a reduction in the cost of producing and marketing home-grown timber. The other would be an increase in the cost of getting timber from the West Coast or other outside sources. - - - - -

"That West Coast timber will not become any cheaper is fairly certain. Costs of logging and manufacture can hardly be reduced much below the present figure; costs of transportation and selling have about reached the lowest possible point; and stumpage values have been sacrificed about as far as they can be. That it sooner or later will become more costly seems equally certain. The factors that will bring about an increased price of timber from the Northwest are: (1) Depletion of the West Coast supply; (2) increased cost of production; (3) competition of buyers in other regions; and (4) improvement of the economic position of western timber owners, so that they will not be compelled to sacrifice their stumpage. - - - - -

"I have attempted to show why the stabilization of production in the Pacific Northwest is a matter of concern to the forest industries of New England. With sustained yield forestry in effect in the Northwest, a well organized New England forestry need have no fear of harmful competition from that region. The present situation may continue for ten years, perhaps longer, but some relief may be expected much sooner. This does not mean that New England should merely sit tight, continue to overcut her own forests, and wait for nature to take its course. The reduction of costs and improvement in quality of output from New England forests is just as promising a line of attack as the stabilization of the West Coast industry. The growing stock of New England forests is very seriously depleted. Not only is there a marked deficit in the

older age classes, but the stands are thinly stocked and the proportion of defective trees and weed species is large. Much of the timber is cut before it reaches the most profitable size, and then is poorly manufactured and inefficiently marketed. Now, when stumpage values are low, is the best time to build up a growing stock, for the rise in values that is bound to come will then add a price increment to the gains resulting from increment in volume and in quality of timber. If the time could be spent in building up a better growing stock and in intensifying timber growing so as to take New England forests as far as possible out of the class of marginal producers, a further ten or even twenty year rest from timber cutting might be the best thing that could happen for New England forestry."

A Paper Presented at the Third New England Forestry Congress, Hartford, Connecticut, January 31, 1929. Journal of Forestry, April, 1929, p. 359-365.

Extract by R. G. Pierce.

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FOREST GIVEN TO UNIVERSITY OF MICHIGAN

Sault Ste. Marie, Mich., Nov. 8.-A gift to the University of Michigan of more than 3,000 acres of timber land and the choicest resort property in this part of northern Michigan, estimated at a value of several million dollars, was presented by former Gov. Chase S. Osborn.

By his gift, Osborn leaves virtually nothing for himself in the eastern part of the peninsula. He only reserves to himself the right to occupy his Zheshebe Minis Lodge and to use his library so long as he shall live.

The land, which consists of the whole of Duck Island and of 3,000 acres on nearby Sugar Island, is given to the university absolutely without strings but it is believed here it probably will be utilized for the study of forestry and natural sciences.

Former Gov. Osborn last month presented Purdue University with more than 5,000 acres in Chippewa and Luce counties. This land is to be timbered off by Purdue for the revenue it will bring and a forestry school probably will be established.

(Clipping cut from the Washington Times of Nov. 8, by Dr. J. F. Martin.)

Edit:-Page Mr. Stouffer to learn whether white pines are growing either on the University of Michigan tract or the Purdue University tracts (both lying in upper Michigan) which may need protection from blister rust. According to the latest information from Mr. Stouffer, based upon a map of September 30, no blister rust had been found in the eastern one-third of the Upper Peninsula in which these tracts of timber land are located.

SAVE A VALUABLE INDUSTRY

Wisconsin's Forests in Grave Danger.

A shortage of lumber or a shortage of pulp wood may seriously handicap Wisconsin economically.

Steadily Wisconsin forests are crashing to the ground before the onslaught of the lumberman's ax or the crackling roar of fire. These two forces are using up timber resources much faster than they are being replaced.

At the present time there are in Wisconsin between 12 and 13 billion board feet of merchantable timber in standing trees. Lumbermen and paper manufacturers are annually cutting about a billion board feet. Without taking into account the rate of growth or allowing for any change in consumption this supply seems short-lived. Just how and where industries will get their lumber for manufacturing and where the paper mills will get their pulp is a growing problem.

Already millions of logs are brought into the State each year. Piled high on railroad flat cars they are rolled to the mills at a freight cost that is steadily forcing up the price of the finished products. As the timber line moves farther away, the cost will become more burdensome. Eventually it will either force prices to unheard of levels, or it will push a valuable industry out of the State.

Each year, Wisconsin wood working industries are manufacturing products valued at nearly a half billion dollars. The annual value of their output is greater than the total income realized by Wisconsin farmers in a year. The owners of this industry have \$420,000,000 capital invested.

Wisconsin forestry resources and possibilities must be carefully studied, fire protection must be given to mature and growing trees, and taxes must be so levied as to encourage private interests to grow forests instead of steadily destroying them.

A Wisconsin paper mill has planted 2,000 acres of forest annually during the past four years, and it has established a fire fighting system that was little more than a dream until recent years. Their efforts are showing just what can be done to keep the Badger wood working industries going in the future.

A trip through deserted lumber towns will show what may happen if Wisconsin people are not sufficiently interested to replant millions of acres of forest on land that is not fitted to the demands of farming.

(Extract from "Wisconsin Agriculturist and Farmer", October 19, 1929, p. 4.)

Edit:- Given equitable taxation and proper protection from fire and insects and such fungi as the white-pine blister rust, and Wisconsin's forests will come back. Our work is a part of the large project of forest protection.

PRICE LIST OF NEW ENGLAND FOREST PRODUCTS -
WHITE PINE, AUGUST 1, 1929.

The following prices are based upon 35 questionnaires returned to the Committee on Markets of the New England Section of the Society of American Foresters. Mr. Austin F. Hawes is Chairman of this Committee.

The prices given are wholesale prices. Retail prices include additional costs for re-milling, overhead, selling, etc.

LOGS

White Pine - average run 5" dia. 10' up - \$16 - \$24 delivered at mills.
Selected clear 12" dia. 12' up \$20 - \$24 " " "

SOFTWOOD LUMBER

(RE BOX 1" - 1 1/4"	\$22-25 delivered at factory
(" " 1 1/2"	24-27.50 " " "
(" " 1 3/4"	27 " " "
(" " 2"	25-28 " " "
(" " 2 1/8"	26-30 " " "
(
White Pine (SE " 1"	25-35 " " "
(" " 2"	30-40 " " "
(
Matched boards	50 f.o.b. Mill (Boston Rate)
(Selected butts	40-50 " " " " " "
(SE #2 1"	40 " " " " " "
(SE #1 1"	70 " " " " " "

FI ING

White Pine - 20' - 50' long - 11¢ linear foot f.o.b. cars So. Maine

R. G. P.

OFFICE COMMENT

Summary of Recent Comptroller's Decisions

SUBSISTENCE, PER DIEMS-LEAVES OF ABSENCE DURING TRAVEL STATUS

An employee taking leave of absence while in a travel status on a per diem in lieu of subsistence basis and who returns to his temporary duty station before the prescribed hours of duty on a specified date is entitled to a full per diem for that day under paragraph 45 (b) of the Standardized Government Travel Regulations. Paragraph 4 of the said regulations is not inconsistent therewith. The last sentence of paragraph 245 (b) applies only to cases in which the beginning and ending of the leave of absence are both in the same calendar day.

SUBSISTENCE, PER DIEMS - SUNDAYS AND HOLIDAYS

Par. 45 (b) of the Standardized Government Travel Regulations has reference to the beginning and termination of per diem payments when questions of leave of absence are involved. An employee in a travel status on a per diem basis who is not required to perform duty on Sundays and holidays is entitled to his full per diem allowance notwithstanding he may be absent from his temporary duty station on such days for personal reasons.

The temporary recall of an employee in a travel status at Baltimore, Md. to his headquarters at Washington, D. C., for a conference at 9 a.m. on a specified date, before the completion of his official duties for which he was directed to perform travel, did not finally terminate his travel status but operated as a suspension thereof for the time actually necessary to return to headquarters to be present at the hour set for the conference and as this was possible and was accomplished by leaving Baltimore at 7 a.m. the day of the conference, rather than the night before, the employee is entitled to a full per diem for the day preceding the conference.

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The Washington Office would appreciate receiving newspaper clippings concerning the work of the agents in the various States. Whenever these clippings are sent in, however, the name, date and place of publication of paper should always be given.

AMONG OURSELVES

Mr. H. E. Allanson, Assistant Chief of the Bureau, and Mr. S. B. Detwiler, Dr. J. F. Martin, Mr. G. B. Posey and Mr. Roy G. Pierce of this Office attended the 15th Annual Blister Rust Control Conference held in Warrensburg, New York, October 31, to November 2.

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Mr. John K. Kroeber received an appointment on October 15th as agent in Michigan with headquarters at Lansing.

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Agent N. H. Harpp of New York has been temporarily transferred to Plant Quarantine and Control Administration.

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Mr. and Mrs. E. M. Brockway of Massachusetts called at the Washington Office on October 21, while vacationing in Washington and vicinity. Agent G. F. Richardson of New Hampshire also called at the Office in October. We are always glad to have any of the agents drop into the Office when they are in Washington.

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Mrs. Mary Louise Reiff returned to the Office recently after a several weeks illness caused by an automobile accident. We are glad to have "Mary Lou" with us again.

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Miss Brycie J. Bayles, Scientific Illustrator in the Washington Office, returned to Washington on October 12 from a field trip of about three weeks in Warrensburg, New York.

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The Blister Rust team, rolling off a set on November 5, postponed on account of the Conference in Warrensburg, cooperated in eradicating 1651 pins (Maple) thereby gaining the second high-team set for the year to date, and copping third place in the Agriculture league. The cooperators were Messrs. Posey, Painter, Sheals, Palmer and Martin. Palmer's offering was a set of 410 (148,126,136) which is high individual set in the league up to the present, while "Doc" Martin contributed a 324 set. Palmer got a good hand in two of the daily papers because of his high score.

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Pitching horseshoes is still a favorite pastime with the boys of this Office during their noon period. At present Jack Palmer and Ed Schmidt seem to be champions.

P U B L I C A T I O N S

Blister Rust

Anon. - Protect White Pine from Blister Rust. A small four-page Leaflet.

Collingwood, G. H. Knowing and Treating Tree Diseases. American Forests and Forest Life, Vol. 35, No. 11, p. 705-708, November, 1929.

Edit:- Those of our Agents who have not seen this article should remember to look it up when they visit their State Leaders or State Forestry Departments. The article not only tells in non-technical language of the white pine blister rust, but also of the chestnut blight, larch canker, the damping-off fungi, and others. The more we know of the character of other important forest diseases, the better will we be able to discuss disease control with forest owners.

Liese, J. Die Rostpilzerkrankungen der Waldbaume (The rust fungus diseases of forest trees) - Mitt. Deutsch. Dendrol. Gesellsch., XI(1928) p. 153-175, 4 pl., 1 fig., 1923.

Root, George A. Blister Rust and Its Control. Yosemite Nature Notes, Vol. VIII, No. 10, October, 1929.

Ribes

Darrow, George M. and Detwiler, S. B. Currants and Gooseberries: Their Culture and Relation to White-Pine Blister Rust. Farmers' Bulletin No. 1398, revised September, 1929.

Edit:- There have been many changes in the State and Federal quarantine regulations since the last previous edition of this Bulletin.

White Pines

Anon. - Floral Emblem of Maine - The Pine Cone and Tassel (Pinus strobus Linnaeus). Maine Library Bulletin (Augusta, Me.). The pine cone and tassel are beautifully depicted in color on the front page of this bulletin. Quoting from the article:

"The perfect specimen of pine cone and tassel from which this photograph was made was personally selected by Mr. Walter O. Frost of the United States Department of Agriculture and the State Department of Forestry, director of the work for white pine blister rust control in this State."

Mirov, Nicholas T. Forestry in Northern China. The Empire Forester (Syracuse University) 1929, p. 33. Mr. M,rov states that:

"The most important tree is the Manchurian White Pine (this is a synonym of the Korean Pine, Pinus Koraiensis, Sieb. & Zucc., R. G. P.) This is the only pine of that region (Manchuria) and the prosperity of the lumber business depends entirely upon it. This tree prefers elevation from 1,000 to 2,000 feet. It reaches a maximum height of 120 feet with a diameter of 50 inches. Duration of life is from 250 to 300 years."

Edit:- P. Spaulding in his technical bulletin No. 87, "White Pine Blister Rust: A Comparison of European With North American Conditions", published in February, 1929, notes that Pinus koraiensis was found infected with white pine blister rust for the first time at Stockholm, Sweden, by Stuart Moir. While found infected only once, Spaulding lists this species as susceptible, classing it with strobis and lambertiana. Specimens of this pine are growing in the New York Botanical Garden, New York City.

Mottet, S. Korean White Pine (Le Pin de la Coree) Pinus Koraiensis. Revue Horticole, Vol. 101, No. 19, July 16, 1929. The Korean Pine seems to be regarded highly both as a forest tree and as an ornamental tree. E. H. Wilson states that this tree attains a height of 26 to 30 meters and a circumference of from 3 to 3.5 meters. In France it is very rare. It is recorded from Segrez in the arboretum of M. Lavallee where it grew to from 10 to 12 meters in height between 1887 and 1921. In the Arboretum of Pezanin created by M. Ph. L. Vilmorin at Dompierre les Ormes (Saone et Loire) some 15 Korean pines were planted between 1911 and 1913. The best examples measure about 6 meters in height and 0.53 meters in circumference 1 meter from the ground. Its vigor at Pezanin may be due to the granitic soil (similar to that in which it grows in Korea) and the elevation, which is about 400 meters.

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BLISTER RUST NEWS



December, 1929.

Volume XIII

Number 12.

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
Office of Blister Rust Control



UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister Rust Control
and the Cooperating States.

Vol. 13, No. 12.

December, 1929

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Christmas Cheer

OUR CHRISTMAS MESSAGE

The Christmas armistice in the blister rust conflict draws near, bringing well-earned relaxation after a year of exceptional accomplishment. We wish a joyous Christmas and a happy New Year to each one in Blister Rust Control, to our co-operators and all other recipients of "The News". May all of you enjoy the superlative blessings of good health, good cheer and high achievement during the coming year, and every year.

On Christmas Eve, when the stockings of our big Blister Rust family are hung before the grate, we have arranged with Santa Claus to give you our thanks and heart-felt gratitude for your devotion to our common cause, and for the kindly regard and cooperation you have so generously given to us and other co-workers. It is truly a joy to work hand in hand with those who retain the Christmas spirit throughout the year.

We, the undersigned, do sincerely subscribe to these sentiments, and give you, most heartily, the greetings of the season.

Witness our Hand
and Seal

A. B. Detwiler
J. Martini
G. B. Posey
Roy E. Pierce
L. P. Arvey.



THE CONFERENCE IN RETROSPECT

A few days ago I had a letter from Mr. Pierce asking me to write an article on the recent blister rust conference at Warrensburg. Of course a request from an editor to one of his staff carries the force of a command, so I sit me down and take my pen in hand in the most approved manner. But having got my pen well in hand, I find myself suffering from a paucity of ideas. This is rather a serious complaint but I suppose an associate editor should be able to ignore a little disability of this kind and write regardless of ideas. It has been done. Nevertheless, I am going to make another start, hoping the idea will materialize en-route.

Back in September of 1929 when Mr. Filler promulgated his annual message paving the way for the blister rust confreres to confer, he suggested that there seemed to be a general desire for a field meeting at Warrensburg. I must have been suffering from a cold at the time or else am getting soft, because his message brought up visions of snowy drifts, icy winds and running noses. This of course is confidential. Being by nature diplomatic I wrote Mr. Filler that such an arrangement would suit me fine, but pointed out to him that it might be difficult to get all the State cooperators up in the icy wilds of the Adirondacks in winter. This was a little rough on the cooperators, and I suppose entirely undeserved, but any of us may stoop to ignoble acts in emergencies.

Needless to say the weather proved to be a happy disappointment. A little warm rain didn't do us any harm and if our health were threatened, good meals and other comforts were potent antidotes. In spite of the weather, for which Messrs. McIntyre, Fivaz, Filler and others responsible for the arrangements should be censured, it was a successful conference and I am sure a good time was enjoyed by all concerned.

In all seriousness the fifteenth annual blister rust conference impressed me as one of the best. I especially enjoyed the informal session at the Pack Forest. The remarks on weevil control by Dr. Peirson and Professor Spaeth were interesting and helpful to me and I am sure to the other agents and State leaders who are continually in contact with this problem. Mr. Klein's talk on "Pruning and Weeding" at the opening session gave us food for thought. His views carried weight because he has made a special study of the subject on the Harvard Forest and his conclusions are based on experimental work. I like to hear such talks on forest problems by men especially qualified to discuss them and believe they constitute an important part of our blister rust conferences. They are not only instructive but add variety to the programs.

The 'piece de resistance' of our educational banquet, if I may so express it, was Fivaz' talk on his Ribes ecology studies. That rightly was given the prominent place on the program. As I see it, the structure of future blister rust control must rest upon a thorough knowledge of Ribes growth and regeneration under the various environmental conditions. When this knowledge is obtained, blister rust control will be fully accepted as a part of our silvicultural practice and the continuity of the control work will be assured. In the meantime our job is to secure effective control with as little Ribes eradication as possible, which will be accomplished by taking advantage of new facts as they appear from ecological and pathological studies. More power to Fivaz, Littlefield and others

engaged in such work! Which reminds me, where were the pathologists? I was all set to hear the latest on dissemination of sporidia, or on the old question of the relative viability of sporidia from Ribes nigrum and other species. I haven't yet reconciled myself to the theory of the laws of chance as explaining the long distance spread of the rust from R. nigrum.

I am sorry not to have been able to take in Dr. York's trip Saturday afternoon. It was a good opportunity to learn something on other tree diseases. As I stated previously the whole program suited me nicely. We had enough field trips but not too much; there was a pleasing variety in the program; the accommodations were excellent and we (speaking for myself and party) returned home with a recollection of a pleasant time in rubbing elbows with our fellow workers, exchanging ideas and absorbing inspiration, which in itself is worth the price of admission. I always get a kick out of seeing the old guard and meeting new faces. We were all glad to have "Father Detwiler" with us again and to see that he is getting back into shape after his long illness. I note that Rose, Bradder, Hodgkins, Lambert, Connelly and Harpp were out on quarantine work and unable to attend the conference this year. And have we been deserted by Dr. Metcalf and Harris Reynolds? They sort of belong in the picture. May all the absentees be with us next time. Then there are those who will not be with us again. We miss them especially on these occasions of reunion and are mindful of their important contributions to the work.

These annual conferences are not only instructive in a technical way but are inspirational in that they afford an opportunity for close association with each other and with scientists in other fields of associated work. We broaden our viewpoint by contact with those engaged in other forest activities and consequently become more useful members of the organization. Incidentally we have a good time and gather energy for another season. The Warrensburg conference offered these opportunities and we benefited according to our capacities.

By an almost charter member,

J. E. Riley, Conn.

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November 8, 1929.

Dear friend Filler:

I want you to know how much I appreciate having been invited to your Blister Rust Conference. It was one of the most interesting and instructive meetings I have ever attended. You are to be congratulated on the extremely fine personnel of your organization. I never met a finer lot of men. The meeting gave me added respect for the fine work that the blister rust men are doing to protect the white pines - and probably even greater still - to arcuse the general public to a realization that we have an invaluable gift in our forests, which must be protected from all destructive agencies.

Most sincerely yours,

Dr. H. B. Peirson,
State of Maine Forest Service.

RECENT NOTES ON CHESTNUT BLIGHT IN OREGON.

L. N. Goodding, State Leader in Blister Rust Control, Makes Investigations.

On August 16, 1929. Dr. Haven Metcalf advised the Oregon Experiment Station that a specimen of undoubted chestnut blight had been received by the Office of Forest Pathology having been forwarded indirectly from the place of J. O. Gunter of Gunter, Oregon.

Through the courtesy of the Office of Blister Rust Control, L. N. Goodding, experienced plant disease scout with headquarters at the Oregon Station, was detailed to investigate the situation. August 22-24, he visited the little out-of-the-way post office of Gunter in the hills of northern Douglas County. He found on the place of J. O. Gunter the diseased stump of a Paragon chestnut tree that had been cut down after severe damage by the chestnut blight fungus which Goodding found fruiting on the stump. This tree had been received from Pennsylvania about 1916.

A Spanish chestnut tree of about the same age with a foot-thick trunk standing on the same place showed serious damage from the same disease.

Close observations revealed no further indications of the disease on the place in the neighborhood. Western chinquapin (Castanopsis chrysophylla) only 200 yards away and others in the vicinity showed no indications of this disease although thorough search was made. None was found on nearby oaks nor on a few trees of American, Japanese and Colossal (seedling) chestnuts which had been planted on the place at various times.

Later C. E. Stewart, experienced fruit inspector of Lane county, J. R. Parker, fruit inspector of Douglas county, and Howard Morriam, State Horticultural Commissioner, visited the locality, made thorough search and found everything free from signs of attack except two trees found diseased by Goodding.

These two trees were completely destroyed by cutting down and burning soon after. The owner, Mr. J. O. Gunter, showed a fine spirit and did everything possible to aid in the investigation and eradication of the disease. The place will be kept under continued observation. There are no other known plantings of chestnuts within twenty miles of Gunter.

Nov. 11, 1929.

H. P. Barss.

(Extract from "The Plant Disease Reporter", Vol. XIII, No. 14, Dec. 1, 1929.)

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HURFORD EXPRESSES SYMPATHY FOR THE EDITOR

I want to criticize the Blister Rust News Associate Editor (including myself) and other agents and, at the same time, sympathize with the editor for having to shoulder the burden of work in producing news. After looking over the November issue of the NEWS, I wondered if all the blister rust agents were on their vacations. It might be interesting to request all the agents to write in informing the Office why they do not often contribute to this paper which has such a great educational benefit to all of us, if all of us are trying to get a "kick" out of our work by increasing our knowledge and ability.

A. W. Hurford, R. I.

NOTES ON THE CONFERENCE FROM MICHIGAN

I am very glad to write you my impressions of the conference at Warrensburg, New York.

The entire program was excellent - so full of interesting trips, talks, infection demonstrations, Ribes reproduction study plots, etc. If I were to choose the most interesting part of the conference for me, I should name the damage study and Ribes reproduction study plots. Such studies and the important data obtained from them under the different conditions are most enlightening. It is also timely as we are about to establish damage study plots in Michigan within the next week or two.

The opportunity to see damage from insects and disease affecting other trees than white pine was great indeed. The red pine injury furnished a striking example of what may happen to this fine timber species which has previously been so free from insects and disease enemies. In blister rust work in Michigan we are often confronted by the question "Why not plant red pine"?, so I am sure we will be able to answer this question more effectively now.

As one to whom most of the material presented was entirely new, I have a feeling that the program was slightly crowded. A week in company with one of the New York agents immediately following the conference would have been of great value to me. However, I believe the feeling of insufficient time is due to inexperience with infection conditions as they are found in the Warrensburg area rather than from a crowded program.

The many plantings, the tractor pulling demonstrations, sand blow control, etc., on the Pack Demonstration Forest were also of great interest to me. I feel that this is the most helpful conference that I have yet been able to attend and certainly think that the program was a mighty effective one.

D. J. Stouffer, Michigan.

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BLISTER RUST AECIA FOUND IN NEW YORK IN NOVEMBER

While it is true that the blister rust has been found in the aecial stage in the fall before this time, its discovery on pines at this time is so rare that it is worth noting here. Mr. A. E. Fivaz on November 29, notes the recent discovery of aecia in New York:

Mr. Detwiler, Mr. Dean and I found aecia this fall on the Dean farm near Hartford, New York, (Washington County), on November 11, 1929, on large stem canker, probably 1919 origin, on 3" - 4" diameter stem. We found three distinct aecial blisters which did not protrude as much as spring pustules, but which, when broken, were found to contain aeciospores. The tree was (as I recall it) some 15 feet high, open-grown, naturally-seeded from nearby large pine.

Mr. Detwiler states:

"The blisters were plainly visible, having pushed slightly beyond the bark, but not ruptured, at the time of observation."

COMMENTS FROM MASSACHUSETTS

Quite often at conventions, it is those who do the least to make the meetings a success that have the most to say in the way of constructive or other criticisms. It is with this feeling in mind that I have attempted to give my impressions of the Fifteenth Blister Rust Control Conference at Warrensburg, New York. These impressions have been influenced somewhat by some of the opinions expressed by a part of the Massachusetts delegation while we were very closely associated on the return trip, five heavyweights with baggage occupying the space in an automobile intended for but four. This latter situation demonstrates, by the way, what close friends we can be when the occasion demands.

But to get down to the subject! I believe that we all can agree that the program was well planned and thoughtfully executed in spite of the weather and the high pressure constantly exerted to make the subject matter fit the time available. In this connection, there seems to be a weak link in this conference chain, if we may so express it. In our next conference, why not give us more time or less material to absorb in the available time, so that we may more easily digest and assimilate what is offered, the better to satisfy our desire for the latest experience and information on blister rust and allied subjects.

We would also like to have a more personal or group contact with other executives, particularly with the representatives of the Washington Office, in order that we may develop some of our local problems, problems that to us are very important, but which are perhaps so distinctly local that they can better be discussed in smaller groups than in a general meeting of the entire membership of the conference. Possibly, such group conferences could be scheduled to occupy and make most interesting, the evening sessions which seemed to be somewhat unpopular at Warrensburg.

With reference to the field program, it may be that "follow the leader" is all right as a slogan, but it does not always work out well in practice. Why not mark the entrances to the field plots with the well-known Ribes sign, so that the fellow who is always last can get there just the same. Points of interest along the way where a stop is not possible, might well be marked with arrows or other sign so that the places will not be missed entirely. In fact, I believe that a goodly supply of printed arrows would be of service to all of us at times when we are conducting parties into the field, to place at road intersections, so that when one car is delayed, it will not be necessary to lose more time in determining which way to proceed.

Lest my criticisms be misunderstood, let me add in conclusion that I would not have missed the conference for anything. I feel that in spite of the unfavorable weather and the constant pressure, I did profit a great deal from the meetings, and then too, it is always stimulating to renew acquaintances with the other men engaged in this interesting work of blister rust control. More time or an abbreviated program would have taken care of any adverse criticisms of mine, and I wish to express my personal thanks especially to Mr. McIntyre and to "Al" Fivaz for their efforts to take care of our interests and to make our stay in Warrensburg both profitable and enjoyable.

Wm. T. Roop, Mass.

RIBES ERADICATION AT THE CLEARFIELD STATE
FOREST TREE NURSERY, IN PENNSYLVANIA.

White pine blister rust has not been found in the Moshannon Forest District, located in Clearfield and Centre counties. However, the Department of Forests and Waters has felt, for a number of years, the necessity of eradicating all Ribes, with which the District is very much infested, in and around the white pine plantations as an extra precaution against the spread of the dreaded pine disease.

The Clearfield State forest tree nursery is situated in the high plateau region of central Pennsylvania and is surrounded on three sides with white pine plantations and natural growth which were infested with many wild gooseberry and wild currant bushes. The Clearfield nursery has had an annual production of from five to seven million seedlings for the past 5 years, of which a large proportion was white pine, shipped to all parts of the State. For this reason it was felt that extra precautions should be taken in this District in order that the disease would not spread to other portions of the State. With this in view, five years ago the eradication of Ribes was started in the immediate vicinity of the nursery. At first the work was not as thorough and the crews were not as well organized as are our crews of today. Some roots were left which later developed into full-sized bushes.

Two years later we were better organized and made a much more thorough eradication for a distance of 300 yards surrounding the nursery. In the spring and summer of 1928 the old area was reworked as well as all of the white pine plantations in the neighborhood of the nursery and for 300 yards beyond the plantations. Even where there were no plantations the eradication was extended 500 yards beyond the nursery.

The area originally averaged about 500 Ribes bushes per acre. Last spring, after a thorough investigation, only a few Ribes were found. A re-eradication will be made next spring to remove the few bushes which were missed and the seedlings which grew up later in the season.

The many deer in this District, though they are destroying much of the young tree growth, are also helping to destroy the Ribes, as they prevent the bushes from putting on new growth and leaves. The Ribes usually begin to leaf before other vegetation starts, and are therefore attacked early in spring by the deer. In the barren areas many Ribes are entirely killed and destroyed by the deer.

William F. Dague, District Forester,
Moshannon Forest District.

(Extract from the Service Letter of the Pennsylvania Department of Forests and Waters, Series 2, No. 332, Oct. 31, 1929.)

PITHY COMMENTS FROM "LITTLE RHODY".

Mr. H. L. McIntyre's criticisms on the Blister Rust Conference in the November Blister Rust News were interesting. He suggests that evening meetings are unwise. I personally feel that a different type of evening meeting, informal conferences between agents, would be desirable and of much benefit. Such get-togethers would allow discussions between individuals which were practically impossible at Warrensburg, since all the time was taken up in carrying out the program.

Our State Entomologist, Professor A. E. Stene, declared that it was a good entomology and pathology meeting. Certain foresters and others interested in the protection of forest growth were present for the first time. The entire group seemed to have a general interest in forest protection as a whole. This seemed to me to be a step towards Mr. Detwiler's plant health service goal. Prevention and control of all plant pests can be more effectively carried out when such activities are coordinated. My thought is that blister rust men are coming to realize that to make their work effective, they must have the general knowledge of all forest protection needs, and that other forest workers are realizing that blister rust control is closely related to their work. This common interest is bound to be helpful in hastening the bringing about of good forest practice in the pine-growing States.

I feel that the conference would have been even better if the agents had taken a more active part in it. Talks and conversation between agents on the side, show that they all have their interesting experiences and worthwhile ideas, which would be of value to others if they would only speak up when they feel they have something of value to add to the discussion. Questions come to their minds but they will not speak out and ask them. Is this because they feel it would be bad form due to the presence of their supervisors who should know more about the subjects, or is it a lack of interest? Personally, I think it is because of the former. The practice of calling upon individual agents for remarks on problems with which they are familiar might help the situation somewhat.

The field trips and the conferences are of great value in broadening the agent's experience and education. As the years pass, every effort should be made to make them more and more valuable. That is, let's keep up the good work and by benefiting by the successes of the past, make our yearly get-togethers inspiring and indispensable.

A. W. Hurford, R. I.

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BLISTER RUST ON THE AIR

Dr. James F. Martin of the Washington Office gave a talk on the radio December 9, over WRC on "Progress in Blister Rust Control". Dr. Martin has a good speaking voice and his talk went off very well. One of the boys listening in, made the remark that it sounded as if it were addressed to him rather than read to him. It seems to me that there is a point in this for the other men who appear on the radio and that is, that while they probably must read their papers it should be done in such a way as to give their audience the impression of being addressed personally rather than merely having statistics read to them.

R.G.P.

SUGGESTION THAT ANNUAL CONFERENCE HAVE SECTIONAL MEETINGS

The editor has read with interest the constructive criticisms on the recent conference, and it is with them in mind that he offers the following suggestion:

It might prove a solution to some of the shortcomings which have been pointed out if one day at the Annual Conference be devoted to 3 or 4 small sectional meetings going on simultaneously. (By sectional, I do not mean geographical but topical, i.e. handling different topics.) Since each State has usually several men present, one or more men from each State could sit in at each sectional meeting and represent their State with its problems. The sectional meetings should not last all day, but say 4 hours each. This would give the men a chance to shift at noon and meet with others at the afternoon session.

Sectional meetings such as suggested would have the merit of having fewer men in attendance at each meeting. This would probably lead to more informality and a wider discussion of the papers presented or problems discussed. In fact it would seem possible by division of the meeting into sections to have everybody take part which is not the practice at the present time. Sectional meetings would rectify the condition which Mr. Hurford suggested, that of inherent disinclination on the part of the agents to speak freely before the State and Washington leaders.

This suggestion is prompted by a similar arrangement at the annual meetings of the American Phytopathological Society. In their annual meeting to be held this year at Des Moines, December 28-31, there is the opening session on the first day for all conferees or delegates, then in the afternoon of the first day there are sectional meetings devoted to Vegetable Diseases, Cereal Diseases, and Fruit Diseases. On the second day in the morning there is a section for Vegetable Diseases (Bacteriological), a section for Diseases of Ornamentals, and a section for Barley Scab.

R. G. P.

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COMMENTS FROM NEW YORK

Relative to the Annual Blister Rust Control Conference held at Warrensburg, New York, October 31 - November 2, 1929, there is one criticism I wish to make. The time between the date on which decision to hold the conference at Warrensburg was announced (September 30) and the date of opening of the conference (October 31) was too short for those who had to prepare for the meeting. I wish to recommend most urgently that the date and place of future annual conferences held in the field be decided upon at least 6 months, or even 9 months, in advance so that more thought and effort can be applied to the work of preparing for the meeting, and so that this work can be carried along with the regular duties of those to whom it is assigned.

A. E. Fivaz, New York.

EXTENSIVE CAMPAIGNS BRINGING WHITE FINERUST UNDER CONTROL

Control of Black Stem Rust of Wheat Also Being Acquired,
Agricultural Officials Told.

Extensive Federal and State campaigns are bringing the white pine blister rust under control, although this disease will eventually spread to some extent throughout the white pine areas of North America, W. A. Taylor, the Chief of the Department of Agriculture's Bureau of Plant Industry told the National Association of Commissioners, Secretaries and Departments of Agriculture, meeting in Washington, D. C.

In speaking of the control of black stem rust of wheat and other cereals through barberry eradication, Dr. Taylor declared that through the joint efforts of Federal and State agencies more than 18,000,000 barberry bushes were removed without resorting to legal proceedings except in eight instances.

Citrus Canker Reduced.

Although citrus canker is not entirely eradicated from the United States, Dr. Taylor declared that the very rapid reduction of infected trees and the thorough-going success in preventing epidemics in commercial regions indicate the effectiveness and value of this campaign and support the belief that final and complete eradication of citrus canker will be accomplished.

Dr. Taylor's address follows in full text:

Has Been Here 30 Years.

The blister rust, long known in its native range in the Old World, was first introduced to North America about 30 years ago. Early establishment of this rust took place in New England and New York, and later it found its way into Pennsylvania, New Jersey, and the Lake States. More recently it has spread into Montana, Idaho, Washington, and Oregon. It spreads through the medium of wind-blown spores, and, while considerable has been accomplished in delaying its natural spread, it is recognized that it will eventually spread throughout the white pine areas of North America.

The Bureau is cooperating with 17 States and with Government agencies administering Federal lands in the control of white pine blister rust. Cooperation in this work is maintained with New England, New York, Pennsylvania, New Jersey, and the Lake States in the East, and with Montana, Idaho, Washington, Oregon, and California in the West. The cooperative work is conducted on a dollar-for-dollar basis in so far as is practicable. However, in the Northeast, State expenditures often exceed Federal, while in the West, Federal expenses are proportionately larger because of the greater Federal responsibility resulting from extensive Federal land holdings.

The object of this work is to secure general and prompt control of the white pine blister rust. In this country the white pines are of such basic importance to forest development that their protection from destruction by blister rust is essential. It is impossible to eradicate this disease in the United States, but it can be effectively controlled locally by uprooting all

currants and gooseberries within infecting distance of the pines.

Control Being Attained.

Under the joint leadership of the Bureau and the cooperating States, systematic control of this disease is being accomplished through cooperative activities which include the study of important phases of the epidemiology of the disease in different regions. the investigation of the disease and its behavior, the application of control measures to delay its spread into uninfected regions, the experimental development and improvement of local control measures for the different white pine regions and the general application of these measures in infested regions where white pines are important forest and ornamental trees.

The white pine areas in New England and New York are being protected at the rate of over 800,000 acres per year. The forests in this region contain 8,221,167 acres of white pine of sufficient value to warrant protection. Control of the rust has been established on 6,837,385 acres of land by the initial eradication of Ribes at an average cost of 21 cents per acre.

There are 1,383,782 acres of white pine plus the acreage in the protective zones which are still in need of initial eradication of Ribes. Following this, re-eradication of Ribes will be necessary over much of the area to maintain control of the rust. In the Lake States, Pennsylvania and New Jersey, Ribes eradication has been performed on 35,734 acres up to 1928 inclusive.

The European cultivated black currant is a chief factor in the rapid and long distance spread of the rust and its complete elimination is the most effective measure for retarding the spread of the disease which is possible of accomplishment. The eradication of this introduced plant has been completed in Montana, Idaho and Oregon, and in most of Washington and California. In the East it has been eradicated from large areas in New England and New York, and to some extent in the Lake States, Pennsylvania, and New Jersey.

Nurseries are Aided.

Nurseries in infested regions which produce white pines for ornamental and forestry purposes have been encouraged and aided in establishing a Ribes-free protective zone around their premises to insure the production of white pine planting stock free from blister rust. In this work, good progress has been made in several of the cooperating States.

Considerable investigative and experimental work has been performed in connection with the control of white pine blister rust. As a result of this work unknown facts in the life history of the fungus have been worked out; practical methods for eradicating Ribes have been developed; information has been obtained on the relative susceptibility of the different species of pines and Ribes to rust; on the life history of Ribes species and the effect of forest cover upon their growth; on the influence of climatic factors on the spread of the rust, and on the conditions under which pine infection takes place, and the toxicity of chemicals to Ribes.

Also practical tree surgery methods have been developed for the treatment of ornamental white pines infected with blister rust.

(Extract from U. S. Daily, Washington, D. C., November 1, 1929.)

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PROGRESS IN NURSERY SANITATION

Progress has been made on nursery sanitation this season. Eleven nurseries now have a Ribes-free area of 1,500 feet and are surrounded by a mile zone within which all Ribes nigrum have been removed. At another nursery a large part of the sanitation work has been done and we have still another nursery on the waiting list. All twelve nurseries originally intended to qualify under Federal Quarantine #63 for interstate shipment of white pines, but six have now abandoned all idea of shipping white pines interstate because they figure that the inconveniences and cost of meeting the Federal requirements are not justified by the amount of interstate white pine business they are likely to do. Of the six remaining nurseries two or three may find it necessary to abandon plans for future interstate shipment because of the cost involved in moving the present white pine stock before they are allowed to plant the seed they intend to qualify. Then too, the nurseries in the ornamental business can't afford to be without ornamental white pine stock for five to ten years while their competitors are absorbing their white pine trade. Unless the Federal requirements are modified so as to allow the present white pine stock to be segregated and disposed of locally there won't be many nurseries qualifying under the provisions of Federal Quarantine #63.

However, eleven of the twelve nurseries will maintain the control areas in cooperation with the State because of the benefits of sanitation and are willing to contribute a flat tax (the amount to be determined later) toward the upkeep of the Ribes-free zones. The responsibility of maintaining these zones will devolve on the State blister rust organization and while the State leader would prefer not to assume the responsibility for maintaining the zones (especially around the nurseries qualifying under Federal Quarantine #63) there appears to be no other reasonable way of maintaining them.

It is interesting to note that of the 1814 cultivated Ribes removed in the course of nursery sanitation work this year, 385 were Ribes nigrum, or about 21%. This high percentage of black currants is not indicative of the cultivated Ribes situation throughout the State. Four of the nurseries worked are surrounded by predominative foreign populations, who cherish the black currant.

A State law outlawing the black currant (R. nigrum) in Connecticut was passed by the last legislature and became effective July 1, 1929. Systematic black currant eradication will be started in the spring of 1930.

J. E. Riley, Conn.

BLACK CURRANT ERADICATION IN MICHIGAN

This is the first year that systematic black currant eradication has been carried on in Michigan and all the work was done by inspectors who had no previous experience. Most of the area was worked a township at a time until the entire county was completed, and usually a crew of two worked together, using one Ford pick-up for transportation and carrier of destroyed bushes. The bushes were piled in the pick-up and carried to the city dumping ground or convenient place where they could be burned. In a good many instances the bushes were pulled by the aid of the truck. This was found to be the best way to handle the larger bushes.

The black currant eradication project is to be pushed further next year and we hope to complete the eradication of this host in all of the infected counties of the Upper Peninsula as soon as possible.

Systematic black currant eradication work has been carried on, up to November 16, in 7 counties, 4 of which have been completed to date. Expect that Montcalm County will also be completed this fall if we continue to have two more weeks of favorable weather. Marquette County can not be completed this year and the work in Gogebic County was stopped on September 9, when the crew working that area had to return to college. A number of black currants have been eradicated under Nursery Sanitation Project, and the infected bushes reported through the school survey have been removed in the Upper Peninsula counties. These bushes so removed are included in the summary under "Other cultivated black currants destroyed this season", showing a total of 202.

Summary

Black currant eradication was carried on in 7 counties, viz:- Cheboygan, Missaukee, Montcalm, Newaygo and Roscommon in the southern peninsula, and Gogebic, and Marquette in upper Michigan.

This systematic eradication work has been completed in 4 counties, viz:- Cheboygan, Missaukee, Newaygo and Roscommon, which have a total area of 1,725,-440 acres, over $2\frac{1}{2}$ times the size of Rhode Island.

Number of European black currants destroyed in this county eradication work - 5,259.

Other cultivated black currants destroyed this season - 202.

Total area covered in systematic eradication - 3,004,320 acres.

Total cultivated European black currants destroyed - 5,461.

D. J. Stouffer, Mich.

O F F I C E C O M M E N T

MEMORANDUM NO. 591

Executive Order No. 5221 of November 11, 1929, is as follows:

Limitation on Non-official Employment of Officers or
Employees of the American Government

It is hereby ordered that no officer or employee in the executive branch of the United States Government, regardless of whether he is on annual leave or leave without pay, shall be employed with or without remuneration by any foreign government, corporation, partnership, or individual that is in competition with American industry.

In view of the necessity of individual interpretation of this order with respect to cases within its scope arising in the Department, it is directed that hereafter no employee of the Department, whether in a duty status, on annual leave, or on leave without pay, shall accept employment with or without remuneration from any foreign government, corporation, partnership, or individual, without the prior authorization of the Secretary.

Nov. 25, 1929.

R. W. Dunlap,
Acting Secretary.

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COMPTROLLER'S DECISIONS

Subsistence - Meals

A Government employee in a bona fide travel status on a per diem basis while at a place other than the place of his residence or actual home who procures subsistence and lodging by renting an apartment which he occupies with his wife who prepares his meals is entitled to the full per diem in lieu of subsistence. Paragraph 47(c) of the Standardized Government Travel Regulations is applicable only where the subsistence and lodging are supplied by a member of the traveler's family at the regular home or place of residence of such member. (A-28674) 9 Comp. Gen. 140.

Subsistence - Meals Taken After Arrival At Post of Duty

Paragraph 62 of the Standardized Government Travel Regulations authorizing reimbursement for meals taken by employees while en route to or from an official station when the departure is before or the arrival after certain specified hours can not be construed to authorize reimbursement for meals not taken en route to or from an employee's official station, but taken at his official station. (A-29021) 9 Comp. Gen. 167.

Leave of Absence - Military - Temporary Employees

A civilian temporarily employed is not entitled to leave of absence with pay for the purpose of attending an annual encampment of the National Guard. (A-28407) 9 Comp. Gen. 119.

Transportation - Mileage Books

In cases where continuous travel between places but a short distance apart is involved and a substantial savings or convenience to the Government will result, the purchase of mileage books not in excess of the current needs is authorized under paragraph 34 of the Standardized Government Travel Regulations. (A-28853) 9 Comp. Gen. 151.

Compensation - Traveling Expenses - Temporary Employees As
Witnesses Before Federal Grand Juries

A temporary employee subpoenaed to appear to testify on behalf of the Government is entitled to his regular compensation for the time necessarily absent from his regular work.

A temporary employee subpoenaed to appear to testify on behalf of the Government is not entitled to witness fees or mileage, but is entitled to his necessary expenses, under the Standardized Government Travel Regulations, in going, returning, and while necessarily at the place where the jury is in session. (A-29269) 9 Comp. Gen. 168.

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NEW HAMPSHIRE FOREST STUDIES SHOW RESULTS

Studies with forest plots at the Station have shown the following facts, reports K. W. Woodward:

(1) That white pine on heavy clay soils is overtopped and crowded out by hardwoods within ten years after seeding.

(2) That Scotch pine is in every way inferior to white and red pine. It does not grow any more rapidly and produces much inferior wood. Besides, seed of suitable origin is difficult to obtain.

(3) That pure white pine stands will yield a cord per acre per annum in thinnings between 30 and 50 years.

(4) That thinning white pine stands produces better quality and bigger trees, and more volume per acre in a given time.

(Extract from Bulletin 233, "New Hampshire Agricultural Experiment Station", February, 1929.)

AUTOMOBILE DRIVERS' RESPONSIBILITY

The following is a brief of a letter from the Acting Solicitor to the Director of Personnel and Business Administration, dated October 29, 1929, relative to the responsibility of drivers of vehicles used in official work of the Department:

The driver of a government-owned vehicle is personally liable and may be sued for any damages caused by reason of his negligence in the operation of government vehicles to personal property, as well as injury to individuals. The only protection afforded him by the government is the provision of an act authorizing the heads of departments to consider claims for settlement from federal funds, on account of damages or loss of privately-owned property, when the amount does not exceed \$1,000, caused by the negligence of any employee acting within the scope of his employment. This act is limited to damage to personally-owned property only and does not extend to personal injury. However, when suit is brought against an employee for acts done in the discharge of his duty, the department may as a matter of sound policy request that the employee's defense be undertaken by the Department of Justice. This is upon the ground that an employee who is not negligent or whose liability is doubtful ought to be given reasonable means of protection and defense against unjustifiable claims resulting from the performance of his official duty. Employment, of course, does not constitute a license or a justification for the committing of illegal acts or injury to the person or property of another, and where there is gross or wilful negligence, employees should be made to bear the full consequence of wrongful acts and be subjected to such disciplinary action by the department as the case might warrant.

Superiors who direct an employee in his work are not laible for the unlawful acts of an employee unless the supervisor actually participates in the doing of the act.

There is no distinction between a personally-owned automobile used on a mileage basis, rented and government-owned automobiles so far as the responsibility of the driver is concerned.

H. P. Avery

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BULK SHIPMENTS OF PUBLICATIONS TO FIELD MEN

Recently word has been received from Mr. L. E. Newman in charge of the New Hampshire work, that numerous copies of the small four-page leaflet "Protect White Pine from Blister Rust", which had been sent out in bulk shipments, had been damaged in the mail. These bulk shipments of publications are all made from the Government Printing Office and this matter is called to your attention at this time so that the field men will check up on the condition on arrival of bulk shipments of publications from Washington.

There is no excuse for packages of circulars being so poorly wrapped that many of them are torn or crumpled and consequently are wasted. However, if our attention is not called to the matter of poor packing, etc., it is taken for granted that everything is satisfactory.

R.G.P.

A GUIDE TO THE PINETUM* OF THE NEW YORK BOTANICAL GARDEN

(Continued from the November Issue)

Pinus strobus: "This is the only five-needle pine native to the eastern United States, where since the advent of the Pilgrims it has been the most valuable forest tree. The vast forests of it that once covered the northeastern section of the country as well as a good part of the Lake States were the bulwarks of this country's early industries. But these vast forests no longer remain, for they have for the most part fallen before the axe. From 1620 to 1840, white pine was the chief timber of New England, and during that period the reserve was reduced from 400 billion board feet to 10 billion feet, a reduction of $97\frac{1}{2}\%$. In 1892, after lumbering had shifted to the wonderful white pine forests of the Lake States, 10 billion feet were cut and since then the annual production has steadily decreased. This gives some idea of the inroads that have been made on a great natural resource.

"Pinus strobus is a native of eastern North America, extending from Newfoundland to Manitoba and throughout the United States from Minnesota to the Atlantic and south along the Appalachians to northern Georgia. It is the tallest conifer east of the Rockies and records exist of trees up to 260 feet in height and 20 feet in girth. Today, however, trees 150 feet tall are uncommon. The wood has always been regarded as one of the finest and most valuable in this country. It is straight-grained, soft, easily worked and finishes well, with a fine even surface. It takes paint and polish well and when once it has been properly seasoned it rarely checks. Its wide uses include almost every wood-utilizing industry in the country, from indoor trim and cabinet work to aircraft and shipbuilding.

"In addition to the intrinsic value of the wood, white pine is one of the best species for reforestation purposes in the northeastern United States. It is unquestionably the most important forest tree in eastern North America and, as one authority states, probably in the world. It is being much used for reclamation work and in Pennsylvania, where much attention is given to forestry, twenty million young white pines were planted during a recent period of eighteen years on the State forests. An additional ten million trees have probably been set out on private lands in that State. New York, Massachusetts, and Connecticut have done similar work. Nursery stock is used for this purpose and it is interesting to note here that the cones of white pine yield from 50 to 75 seeds each, that from 25,000 to 35,000 of these seeds are required to make a pound of clean seed sufficient to sow 100 square feet of nursery bed and that each bed can produce from 10,000 to 15,000 two-year-old seedlings.

"The white pine has been extensively introduced into Europe with marked success. In 1705 it was brought to England by Lord Weymouth and in that country it is most commonly known as Weymouth Pine. In 1794, a Hessian forester who was visiting America returned to Germany with sufficient white pine seeds to reforest 15 acres of woodland near Trippstadt in Bavaria. Years after, when the forestry movement in the United States was in its infancy and nurseries

could not yet supply the needs, white pine seedlings were imported from Germany for reforestation purposes from those very trees that, in the form of seed, originally went from this country. Throughout continental Europe white pine has been planted to such an extent that it is now regarded as a naturalized member of the forests there."

There is a variety of strobis whose branches are not so horizontal but rather ascending. It is pyramidal in shape and is known as the Columnar White-Pine, Pinus strobis var. fastigiata or var. pyramidalis.

"Pinus strobis is further characterized by having its bluish-green and somewhat feathery-looking foliage distributed in horizontal masses along the branches which occur in regular whorls. Furthermore, there are tufts of hair below the insertions of the leaves. Especially in old age is white pine a thing of beauty, when a tall bole bears high up near its crown far-reaching limbs that seem to be horizontal arms supporting platters of upright tufts of leaves. At this stage in the life of the tree the needles do not appear below their main boughs. ***.

"It would be unfair not to mention the two weaknesses of the white pine, for they play a tremendously important role in the reforestation of this species. They are the susceptibility of the tree to the ravages of an insect pest, the white-pine weevil, Pissodes strobi, and the fungus, Cronartium ribicola, which causes the white-pine blister rust. It is not within the compass of this book to discuss these destructive agents, but their importance is so great that they must at least be mentioned."

Pinus koraiensis:" The Korean Pine is an eastern Asiatic species occurring in Amurland, Manchuria, Korea, and Japan. It is a five-needle species and very much resembles the Swiss Stone-Pine, sharing with that tree the three characteristics of dense brownish pubescence on young shoots, of wingless seeds and of indehiscent cones, that is, cones which do not open upon maturity but must decay or be forced open by man or beast to liberate the seed. However, the leaves of the Korean Pine are stouter and the teeth on the margins more numerous and carried to the tips. Their cones, moreover, are larger.

"The Korean Pine attains a height of 100 feet in its native home; the wood occurs in the trade. In pre-war days it was becoming a very valuable article of export to Chinese and other Asiatic and Australasian ports. The seeds are sometimes used as food.

Pinus flexilis: "Not much is known concerning this tree as an ornamental in this section of the country. It is a native of western North America, ranging from Texas to Alberta and westward into California at altitudes up to 12,000 feet. It is particularly a Rocky Mountain tree. In its native range it may attain a height of 80 feet, though usually it is only about 50 feet tall. It is a hardy species of slow growth and frequently occurs as a stunted tree, at least, at the higher limits of its range. In some sections it forms extensive forests and is cut for lumber; elsewhere it occurs in mixture with other species.

"Both the common and botanical names of this species have arisen from a remarkable flexibility of the wood, for a branch of the tree can be bent to any angle without fear of breakage.

"The Limber Pine is a five-needle evergreen and is distinguished from all other five-needle pines, except P. albicaulis and P. pumila, by the fact that its needles are practically without teeth. This, however, can be determined only by the aid of a microscope, for a pine needle may appear perfectly toothless until examined under the lens. In fact, there are only five pines whose needles may be regarded as entire, that is, having no teeth. The two in addition to the three already noted are P. aristata, the Bristlecone Pine, and P. balfouriana, the Foxtail Pine. The Limber Pine is the only one of these five that is represented in the collection.

"Pinus flexilis, like P. cembra and P. koraiensis, has wingless seeds, but differs from those two having dehiscent cones that open upon maturity and liberate the seeds. This character of wingless seeds occurs only in three other pines, which are absent from the collection. Lustrous yellow cones, when present, are a further distinguishing feature of the Limber Pine."

C. E. BEHRE MADE DIRECTOR OF NORTHEASTERN
FOREST EXPERIMENT STATION

C. Edward Behre, a man of extensive experience in forest research in New England, has just been appointed director of the Northeastern Forest Experiment Station, Amherst, Mass., by Secretary Arthur M. Hyde of the U. S. Department of Agriculture. He is a graduate of the Yale Forest School and formerly was employed by the Forest Service, U. S. Department of Agriculture, in the Southwest. Following military service in the war he was associate professor of forestry in the University of Idaho for five years. In 1923 he joined the staff of the Northeastern Forest Experiment Station, leaving there two years ago to undertake forestry consultant work in New England. The Northeastern Forest Experiment Station is maintained by the U. S. Forest Service for the conduct of investigations and research into methods of timber growing, forest protection, and other forestry problems of the New England States and New York.

November 27, 1929.

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WINTER WORK IN MAINE

A few days ago while on a field trip in the town of Freeman in the northwestern part of Franklin County, Maine, for the purpose of starting blister rust control work in this town, we chanced upon six native white pines in a farmer's dooryard. These were about twenty years old and every one of them was badly infected. We had no difficulty in gaining this farmer's support for Ribes eradication next spring.

Dec. 8.

D. S. Curtis, Maine

FIRE PREVENTION VERSUS FIRE SUPPRESSION

Massachusetts Forestry Association
4 Joy Street, Boston 9, Mass.

October 31, 1929.

The Editor,
Blister Rust News,
Bureau of Plant Industry,
Washington, D. C.

Dear Sir:

I have read with much interest the article in Blister Rust News on "Fighting Fires in the Forest" by Henry Clepper of Pennsylvania, which shows how far the idea of fighting forest fires has been advanced.

Great progress has been made in the development of fire fighting equipment and methods of fire suppression but the results of this year are extremely discouraging and with all of the expenditures that have been made, the losses from forest fires this year promise to equal or exceed even the bad year of 1910. This ought to prove to the public if not to the foresters themselves that we are working from the wrong premise in this forest fire problem. We are in the position of doctors who rely on suppression measures in the case of a typhoid epidemic instead of devoting their efforts to finding and eradicating the source of pollution.

It would hardly be fair to say that suppression methods alone have proved a failure but certainly they have not been a howling success. Some day the public is going to ask us what we are doing in the way of prevention and it may be embarrassing to answer that question satisfactorily. So far as I know over 90 per cent of all the monies appropriated in this country for forest fire work is being used in the preparation for fighting fires while a very small amount has been used in preventive measures. The fact is that we have followed the line of least resistance. It is much easier to build trails, towers, telephone lines and improve equipment than it is to educate the public. Everybody admits that the big cause of forest fires is human carelessness and yet we have done but little with the public monies appropriated for forest fires in reaching the real source of the trouble.

Every forester freely admits that we need more public education in the prevention of fires but it is a rare case where any one has asked for money to be used expressly for that purpose.

It was not until the Cape Cod Forest Fire Prevention Experiment was carried out that any one was able to give the dollars and cents value of public education and patrol in the prevention of forest fires. That experiment which was carried out with great care over a period of three years in one of the sections of highest fire hazard in this country, showed that with 20 per cent

less money used for public education, patrol and suppression together than had been used during the previous three year period for suppression alone, that the fire losses were reduced by 80 per cent. In every instance where public education and patrol have been applied intelligently the fire losses have been greatly reduced.

I have recently visited the fire district of Maine where ten million acres of forest land is being protected from fire largely by the use of patrol coupled with a campaign of education and although this has been an extremely bad year, the fire losses in Maine have been exceptionally low.

In one of our Massachusetts towns some three years ago there was a forest fire that burned over 2500 acres. The loss in timber was not heavy but the cost of the fire was a tremendous burden to the town. It was shown that if the money spent in fighting that one fire had been put in a trust fund interest alone would have paid for such intensive patrol that the forest fire losses would be practically eliminated.

The big difficulty at present is to convince our legislators that it is better to spend money in the prevention of fires than in the suppression of them after they are started. but unless some effort is made by those who make up budgets to present this subject intelligently to our appropriating authorities, national, state, county and town, we are going to continue in the same old rut which we have followed for the past quarter century. We are very much in the position of the frog in the well which climbs up a foot in the day time and slides back again at night. After a bad fire year we mass a lot of statistics to show that we are making improvement with the bad year as our measuring stick and then along comes another bad year and we have to adopt another new measuring stick.

It seems to me that so far as suppression measures are concerned we have gone about as far as we can hope to go. At least new ideas are becoming rare. Isn't it time that we recognize that the forest fire problem cannot be solved by suppression measures alone and devote more of our attention to prevention. From the experiments that have been made, it is conservative to say that if half of the money now used for suppression were spent in local public education, and in patrol to reach those who come into the district from the outside, a large part of the other half of the money could either be used in reforestation or be turned back to the Treasury.

In your Blister Rust Control work you have developed one of the best examples of how to reach the public through education, and there should be no hesitation on the part of the foresters to apply these methods to the forest fire problem. We all know that commercial forestry is and will continue to be at a standstill until this fire problem is solved. No good business man is going to invest capital in a long-time investment where the risk of having it wiped out in a single day is so great as it is at present in forestry and where it is not possible to secure insurance against such losses at reasonable rates. It is the duty of the public which has the greatest stake in the forest resources to reduce the forest fire losses to the point where the private owner can secure insurance at such rates as to assure him a fair margin of profit. That is the one formula on which we must work if we are to succeed in defeating this great enemy of the forest, and this can be done only through public education.

Yours sincerely,

(Signed) Harris A. Reynolds,
Secretary.

Edit: The above letter by Mr. Reynolds has been given a place in the Blister Rust News because of the fact that it is a comment on an article run in the previous issue.

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LEE STRONG OF CALIFORNIA TO
HEAD FEDERAL PLANT CONTROL

The appointment of Lee A. Strong of California, who was selected some months ago from a list of eligibles certified by the Civil Service Commission, to be chief of the Plant Quarantine and Control Administration, was announced on November 16 by the U. S. Department of Agriculture. Mr. Strong, who is assistant director of agriculture of the State of California, was formerly connected with the Federal department as a specialist in plant quarantine work and previous to that had been associated with the Federal Horticultural Board as a collaborator. In addition to his position as chief of the Plant Quarantine and Control Administration he will serve ex-officio as chairman of the advisory Federal Plant Quarantine Board, made up of representatives of several bureaus of the department. He will take up his new duties about December 1.

Dr. C. L. Marlatt, who has been filling the two positions of chief of the Bureau of Entomology and chief of the Plant Quarantine and Control Administration since July 1, 1928, retires at his request from the latter position in accordance with a plan which was authorized some two years ago.

NURSERY SANITATION

The nursery sanitation provision (Regulation 2(d), of the white-pine blister rust quarantine was designed to allow as wide movement of five-leafed pines from heavily infected States as is compatible with good quarantine practice. Several nurserymen in New York and in the New England States have expressed their desire to raise their white pines under blister-rust-free conditions as specified in the quarantine and have applied for pine-shipping permits. The following information in tabular form summarizes such data and outlines the activities of the Plant Quarantine and Control Administration in enforcing the regulation referred to.

State	Applications received for pine-shipping permits				Action Taken on Formal Applications					Permit pending. Inspection of nursery and environs to be made.
	Fiscal 1929		Year 1930		Permits		Refused	Permit issued	Permit issued tentatively	
	For-mal	Infor-mal**	For-mal	Infor-mal**	Infected pines found in nursery and Ribes in environs	Ribes found in environs				
Connecticut			5	2	1	2			1*	1
Massachusetts	1	2			1					
Maine	2					1			1	
New Hampshire	1				1					
New York	2					1	1			
Vermont	1	2							1	

* Inspection of nursery and environs has been made and the area found to be free from Ribes. Pine seed is to be planted in Spring of 1930.

** Informal applications were received by letter. P.Q.C.A. application forms sent but not returned to date. In some cases the condition described in original letter showed that the white pines in stock were not grown from seed in Ribes-free area.

By R. A. Sheals,
Plant Quarantine and Control Administration,
December 11, 1929.

A M O N G O U R S E L V E S

Mr. Robert M. Ross, Commissioner of Forestry for Vermont, who has been a collaborator of this Office for nearly six years, has resigned his position. He writes that he goes to Connecticut on December 1, to take the position of Forester for the Connecticut Forest and Park Association.

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Mr. Alfred E. Fivaz of the Class of 1921, was recently elected president of the Alumni Association of the New York State College of Forestry, Syracuse University. Mr. Fivaz has been in the Office of Blister Rust Control since June 1, 1922. He makes his summer headquarters at Warrensburg, New York, where he is engaged in carrying on research in blister rust control problems.

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Mr. B. A. Anderson and Mr. S. E. McLaughlin of the Western Office, dropped in at the Washington Office on December 7, having worked their way on a freighter via the Panama Canal to New York City, leaving Seattle October 28, and arriving in New York on November 28. They are enroute to Europe for several months on a business and pleasure trip.

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Mr. H. J. Ninman, State Leader in Wisconsin, arrived in Washington, November 29, to spend the winter. Mr. Ninman, who traveled extensively in Germany in the spring of 1928, has a short article entitled "Notes on European Forestry" in the Journal of Forestry for November, 1929, p. 878-881.

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Mr. Harrington G. Bradbury was appointed agent in Maine, November 16, to take the place of Mr. S. D. Conner, who resigned November 14. Mr. Bradbury's headquarters are at Belfast, Maine.

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Mr. A. M. Hurford of Rhode Island, in letter of November 26, writes: "Mr. Palmer, Accounting Clerk of the Washington Office, recently visited me while in Providence on his vacation. The contact certainly allowed me to understand in greater detail the operations of the Washington Office, and from what Mr. Palmer said, he was glad to make the contact with a field unit."

Connecticut Notes.

The Connecticut delegation returned from the Annual Blister Rust Conference well satisfied with the program and pleased with New York's hospitality. We could have done with a little more sunshine, especially as fifty percent of our crew hadn't previously seen the Adirondacks - and still hasn't, except as a worm sees its apple host.

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Messrs. F. S. Eaton and M. R. Adams, both of Connecticut, have been released for scouting in Michigan for a month or so this winter.

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Bowling News

At the half way mark of the season, the Blister Rust Bowling Team at Washington is tied for the top rung. The quint holds several records, having 3rd high team set, high individual set, and 2nd high individual game. Each of the regulars is carrying an average of better than 103 pins.

P U B L I C A T I O N S

Blister Rust

Spaulding, Perley. Relation of Pathology to Forestry in the Northeast. Canadian Woodlands Reviews, Voll. No. 3, July, 1929, p. 7, 8, 18. This article has several paragraphs on white pine blister rust.

Forestry

Recknagel, Arthur B., and Spring, Samuel N. Forestry: A study of Its Origin, Application and Significance in the United States. Published by Alfred A. Knopf, 1929, N. Y., 255 pages. This is an interesting and easily grasped book, particularly valuable to those non-foresters who desire general information on the subject.

White Pine

Woodward, K. W. Forest Studies Show Results. New Hampshire Agricultural Experiment Station, Bulletin 238, February, 1929, p. 26.

